PUEBLO PARK

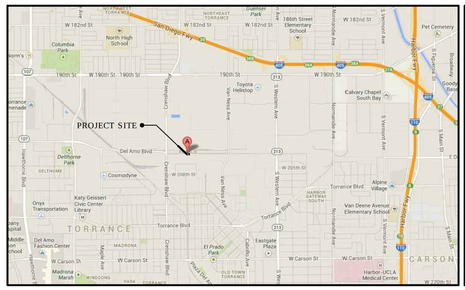
City of Torrance, Los Angeles County, California

Landscape Expansion Plans

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

S H E E T I N D E X :

V I C I N I T Y M A P L O C A T I O N M A P



G E N E R A L N O T E S

LANDSCAPE :

1. Landscape architect shall locate and tag all trees 24" box in size and larger. Contractors are to use Pacific Coast Nursery
   Contact: Steve Adams (951)689-1777
   for standardized bidding. These material prices are for bidding prices only and shall be used by all landscape contractors so bid numbers are equal. Landscape architect will submit a list of trees and nursery locations to the contractor who is awarded the bid. If the contractor's bid is less than the standard material cost and the actual tagged tree material cost is per the standard prices, the contractor shall be responsible for the additional material costs. If the tagged tree material prices are more than the standard nursery costs, the contract numbers will be adjusted accordingly.
2. Contractor is to spot all plant material and have the Landscape Architect approve the spotting prior to excavation of any plant pit. Allow 48 hours lead time. Any tree, shrub or vine that is planted without approval of the Landscape Architect may be moved at the contractor's expense.
   Contact: Philip Stevens (949) 333-6310
3. Remove stakes from all espaliers and vines and attach to walls, posts, etc. with Landscape Architects approved method.
4. Prior to planting installation, contractor shall have soil tested and send results to Landscape Architect. Refer to planting plan for soil preparation bid information.
5. Contractor to contact Landscape Architect for final observation when installation is complete, and for a final maintenance observation at the end of the maintenance period.
   Contact: Philip Stevens (949) 333-6310

HARDSCAPE

1. Contractor to review construction plans and grading plans thoroughly prior to beginning work.
2. Contractor to contact Landscape Architect prior to start of construction for pre-job meeting. Allow 48 hours lead time.
   Contact: Philip Stevens (949) 333-6310
3. Contractor to contact Landscape Architect to review hardscape forming prior to pouring. Allow 48 hour lead time.
   Contact: Philip Stevens (949) 333-6310
4. Contractor shall not make field changes to plans unless authorized by the Landscape Architect. Unauthorized changes shall be corrected to conform to the plans at no additional cost to the Owner, or Landscape Architect.
5. Contractor shall verify location of all underground utilities and services prior to any digging. Contractor assumes full responsibility for all damage caused by failure to do so.
6. Contractor to pull all necessary building permits needed to complete the job.

C O N S U L T A N T S :

CIVIL ENGINEER
CIVIL DESIGN AND DRAFTING, INC.
885 PATRIOT DRIVE, UNIT C
MOORPARK, CA 93021
(805) 522-2622 CONTACT: IMAD ABOUJAWDAH

LANDSCAPE ARCHITECT
LAND CONCERN, LTD
1750 E. DEERE AVE.
SANTA ANA, CA 92705
(949) 250-4822 CONTACT: PHILIP STEVENS

LIGHTING CONSULTANT
VISUAL CONCEPTS
7297 RONSON ROAD, STE. C
SAN DIEGO, CA 92111
(858) 278-4503 CONTACT: KENNY PEREZ

IRRIGATION CONSULTANT
WATER CONCERN, LTD
29829 SANTA MARGARITA PKWY, STE. 200
RANCHO SANTA MARGARITA, CA 92688
(949) 635-0474 CONTACT: STEVE HOHL

AGRONOMIST
SOIL AND PLANT LABORATORY
4741 EAST HUNTER AVE. SUITE A
ANAHEIM, CA 92807
(714) 282-8777 CONTACT: JASON GIHRING

STRUCTURAL ENGINEER
ESI / FME, INC.
1800 EAST 16TH STREET, UNIT B
SANTA ANA, CA 92701
(714) 835-2800 CONTACT: RAMON WONG

811 Know what's below. Call before you dig.

REVISION NO.	REVISION DESCRIPTION	APPROVAL SIGNATURE	DATE
1			
2			
3			
4			
5			

TOR010

REVISIONS

PUEBLO PARK

2252 Del Amo Boulevard, Torrance, California

Landscape Improvement Plans

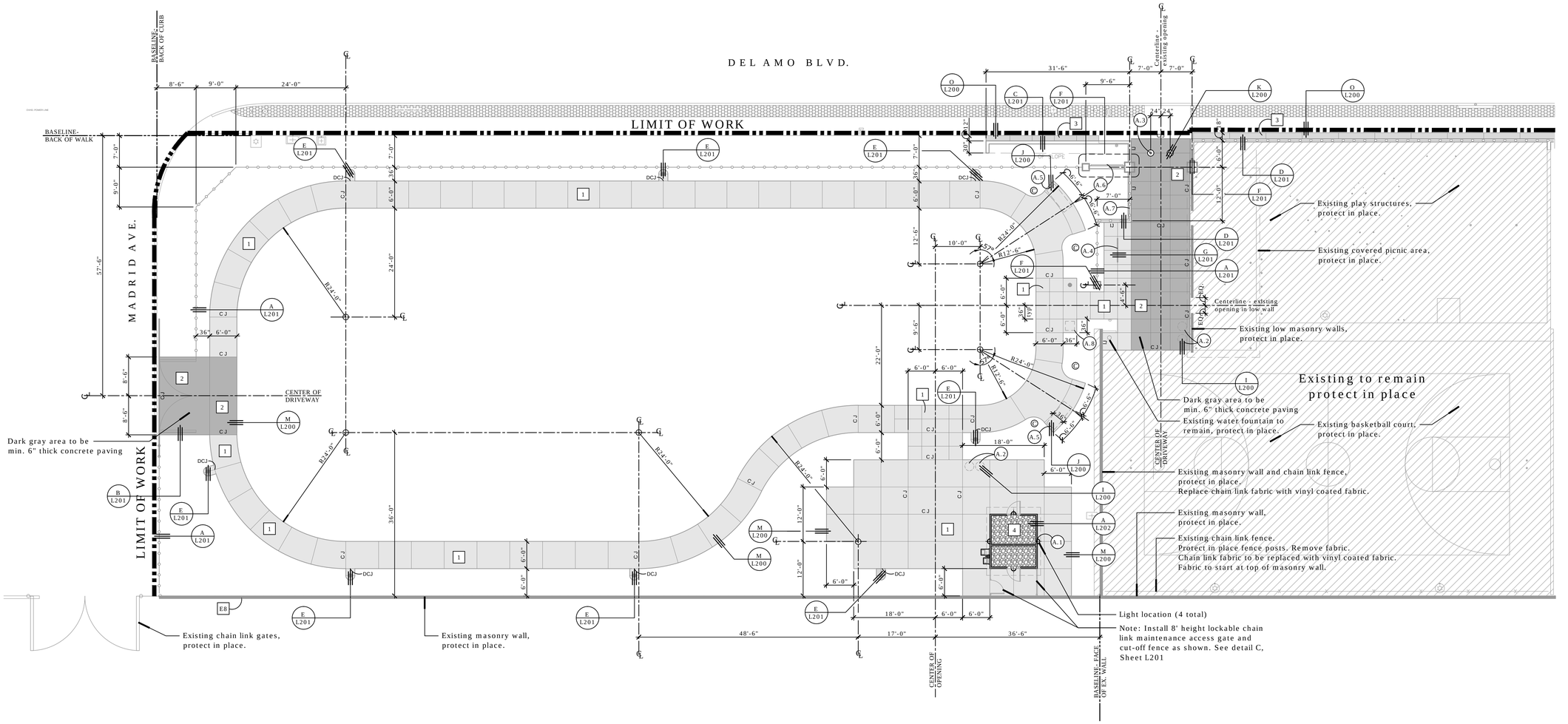
City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

TITLE SHEET

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: N.A.
date: 04/02/14
scale: N.A.

S H E E T
X-0 of 10



Radius Legend

- Point of reference
- Ⓐ Radius = 2'-0"
- Ⓑ Radius = 2'-6"
- Ⓒ Radius = 3'-0"
- Ⓓ Radius = 4'-0"
- Ⓔ Radius = 5'-0"

Construction Legend

A/C	Asphaltic Concrete
B.C.R.	Beginning Curve Radius
B.O.C.	Back of Curb
C.J.	Cold Joint
C.L.	Center Line
CLEAR.	Clearance
CONC.	Concrete
CONT.	Continuous
DIA.	Diameter
D.G.	Decomposed Granite
EA.	Each
E.C.R.	End Curve Radius
E.J.	Expansion Joint
ESMT.	Easement
EQ.	Equal
EXIST.	Existing
F.O.B.	Face of Building
F.O.C.	Face of Curb
F.G.	Finish Grade
F.S.	Finish Surface
FTG.	Footing
GALV.	Galvanized
H.B.	Header Board
MAX.	Maximum
M.C.R.	Middle Curve Radius
MIN.	Minimum
M.B.	Mail Box
NAT.	Natural
N.I.C.	Not In Contract
N.T.S.	Not To Scale
O.C.	On Center
P.A.	Planting Area
P.I.P.	Poured In Place
P.L.	Property Line
R.	Radius
R.S.	Resawn
R.O.S.	Rough Sawn
RWD.	Redwood
S.D.	Slot Drain
SHT.	Sheet
S.L.	Score Line
SQ.	Square
S4S	Surfaced Four Sides
STD.	Standard
T.F.	Top of footing
T.W.	Top of wall
TRANS.	Transformer
TYP.	Typical
W.I.	Wrought Iron

Concrete Sample Note

General Contractor shall provide on-site 3' x 3' sample flatwork panels for each concrete color / finish combination specified in the paving notes. Sample panels to be approved by Landscape Architect and owner prior to the start of construction.

Concrete Forming/Scoreline Note

Scoreline pattern shown for finished design.

Trowel release joints may be required initially in some locations as necessary to reduce potential cracking. Trowel joints need to follow scoreline pattern, as shown on the plan, and be finished with a sawcut to match adjacent scoreline sawcuts.

Landscape Architect to review all forming before concrete is poured and scoreline "Snap lines" before concrete is cut. Allow 24 hours lead time.

Construction Staking Note

The design intention of all meandering walks, walls, etc. is to maintain continuous smooth radii on all segments. If any staking dimension(s) creates a deviation to the constant radius, contact the Landscape Architect immediately.

Construction Notes

Contractor to verify with Landscape Architect all materials, colors, and finishes prior to construction.

All construction shall conform to all local City and County codes.

All trees, boxed or otherwise, shall be planted prior to any hardscape where conflicts between tree box size and planting area occur. All tree locations and all field adjustments shall be made by the Landscape Architect.

All irrigation sleeves shall be installed prior to hardscape. Refer to irrigation plans.

All angles to be 90 degrees or 45 degrees unless otherwise noted.

All scorelines, sawcuts, and expansion joints to occur as shown on plans. All unlabeled construction joints to be score lines.

Contractor shall not make field changes unless authorized by Landscape Architect. Any unauthorized changes shall be corrected to conform to the plans at no additional cost to the owner or Landscape Architect.

Contractor to verify all utility locations. Contractor shall inform Superintendent and Landscape Architect if any field modifications are necessary.

Paving sub-base and reinforcement to be verified with structural and geotechnical soils engineer.

Refer to civil engineer's precise grading plan for drainage locations and details.

Amenity Schedule

A.1 Prefabricated Restroom Building:
CXT Concrete Buildings - Ozark I flush restroom
CXT Contact: Brian Frost (916) 662-4228 or Bfrost@lbfoster.com
Specifications:
Split face block texture, color to match site wall block color.
Optional ribbed metal style roof, color to be Nuss Brown.
Equip with auto-locking restroom door per Parks Dept. spec.
Equip with drinking fountains.
Equip with 4 security lights as shown.
Equip with lockable hose bib connection below drinking fountains.
Equip with floor drain in restroom.
See **Prefab Restroom Delivery Note** this page.

A.2 Trash Recepticles:
Victor Stanley - Economy Series Model ES-242
Color to be *Tavern Square Green*
Qty: 4
Victor Stanley - ES-242 Recycle Package
Qty: 2 (2 of the 4 recepticles to recieve the recycle package)
Available from: Avalon Amenities Inc. (951) 299-9394

A.3 Removable Bollard:
Quick Crete - Model QR-9B-R
Color to be *Sand;* with sandstone texture; standard gloss sealer
Qty: 2
Available from: Quick-Crete (714) 309-6564

A.4 Bike Rack:
Landscape Structures - Loop Rack Model 100102B TenderTuff Coated
Color to be *Brown*
Direct buried version
Qty: 1
Available from: Coast Recreation (714) 619-0100

A.5 Bench
Victor Stanley - Classic Series Bench Model CR-96,
6' length w/ Intermediate armrest
Color to be *Tavern Square Green*
Qty: 2
Available from: Avalon Amenities Inc. (951) 299-9394

A.6 Park Sign
Provided and installed by contractor
Qty: 1

A.7 Park Rules Sign
Provided and installed by City of Torrance
Qty: 1

A.8 Community Book Exchange
Provided and installed by City of Torrance
Qty: 1

Paving Schedule

1 Min. 3½" thick natural gray concrete paving. Concrete to have a broom finish with the direction of the broom perpendicular to the flow of traffic. Scorlines to be sawcut per plan. For steel reinforcement, concrete thickness, strength and subgrade preparation, the contractor shall obtain recommendations from a geotechnical engineer.

2 Min. 6" thick natural gray vehicular concrete paving. Concrete to have a broom finish with the direction of the broom perpendicular to the flow of traffic. Scorlines to be sawcut per plan. For steel reinforcement, concrete thickness, strength and subgrade preparation, the contractor shall obtain recommendations from a geotechnical engineer.

3 Min. 3½" thick natural gray concrete in-fill paving andjacent to existing walkway. Concrete finish shall match adjacent sidewalk paving. Scorelines to continue through and match from existing sidewalk and For steel reinforcement, concrete thickness, strength and subgrade preparation, the contractor shall obtain recommendations from a geotechnical engineer.

4 Gravel sub-base: Min. 6" thick ¾" minus crushed rock compacted to 95% of optimum density as suggested by manufacturer of prefabricated restroom building. Sub-base shall be uniformly level, not varying more than ½" from a true horizontal plane. Contractor shall verify sub-base requirements with a geotechnical engineer prior to construction. NOTE: Once building is set Contractor is to place remaining flatwork up to building in keeping with the scoreline module. Landscape Architect to review flatwork forms and sequencing prior to placement.

Prefab Restroom Delivery Note

General Contractor shall coordinate delivery of restroom building such that all existing or proposed improvements, on or off site, are protected from damage. All damage incurred by off-loading of the restroom building shall be repaired at no expense to the City. Contractor to coordinate with restroom manufacturer for crane heights, off-loading and staging requirements, and associated utility coordination as required (i.e. overhead power lines). Preliminary review indicates that an additional short trailer with crane will be required for on site placement of building due to existing power lines. Contractor to review site conditions prior to finalizing bid.

Legend

APPROX. BOUNDARY
FLOWLINE
METAL FENCE

PA = PLANTING AREA
EQ = EQUIPMENT
TC = TOP OF CURB
FL = FLOW LINE
TW = TOP OF WALL
INV = INVERT
TG = TOP OF GRADE

= TREE
= WATER METER
= WATER HEATER
= UTILITY POLE
= FIRE HYDRANT
= GAS LINE
= GAS METER
= SEWER
= LIGHT POST

= HOSE BIBB
= UTILITY BOX
= STREET SIGN
= ELECTRIC METER
= POST / PILASTER
= ELECTRIC OUTLET
= DRAIN / CURB CORE CUT
= IRRIGATION CONTROL VALVE

0' 5' 10' 20'
Scale: 1"=10'-0"

TOR010

REVISIONS

PUEBLO PARK

2252 Del Amo Boulevard, Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

INFO & CONSTRUCTION LAYOUT

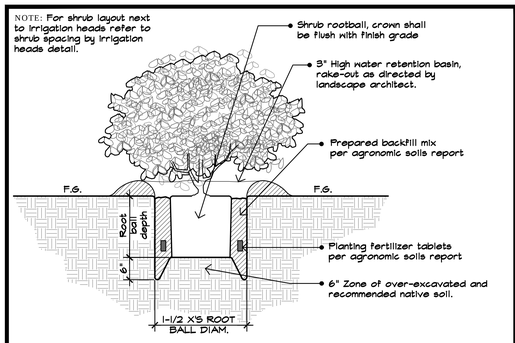
LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: P. Stevens
date: 04/02/14
scale: 1" = 10'-0"

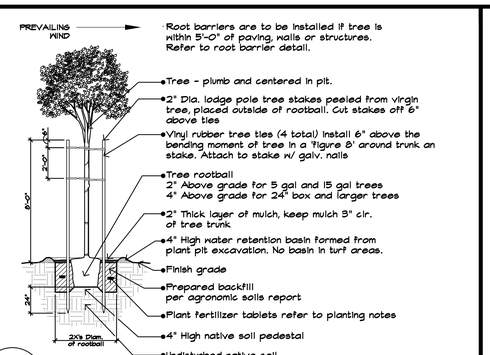
SHEET L-100 of 10

Pueblo Park - City of Torrance

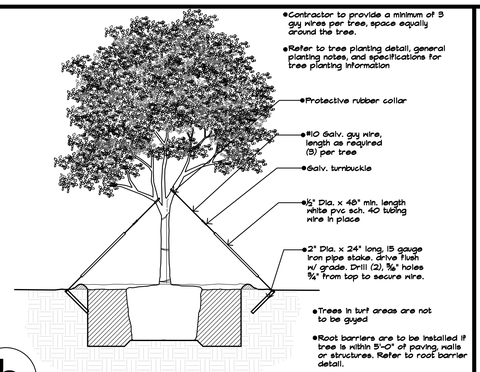
NOTE: For shrub layout next to irrigation heads refer to shrub spacing by irrigation heads detail.



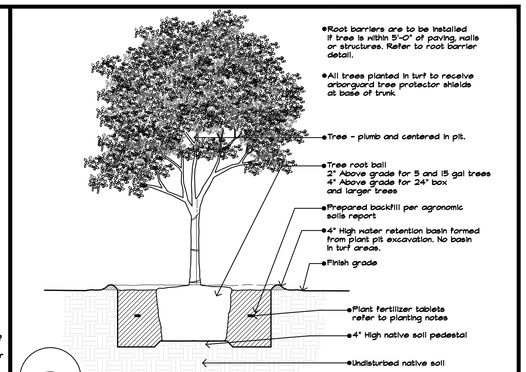
d SHRUB PLANTING SCALE: 3/4" = 1'-0"



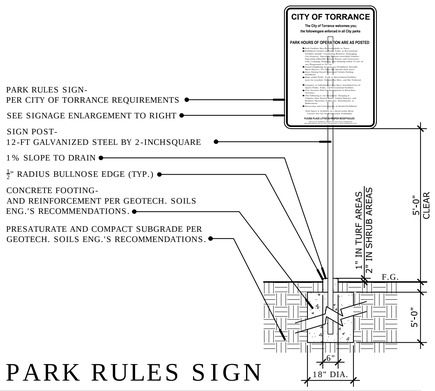
c TREE STAKING SCALE: 1/4" = 1'-0"



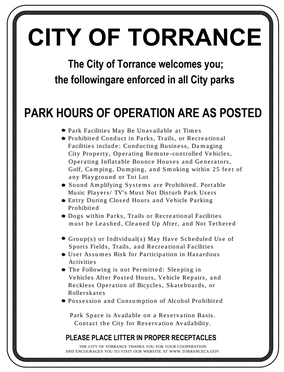
b TREE GUYING SCALE: 1/4" = 1'-0"



a TREE PLANTING PLAN SCALE: 1/4" = 1'-0"

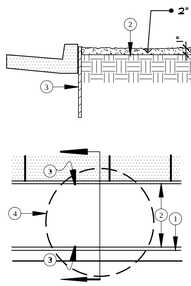


g PARK RULES SIGN

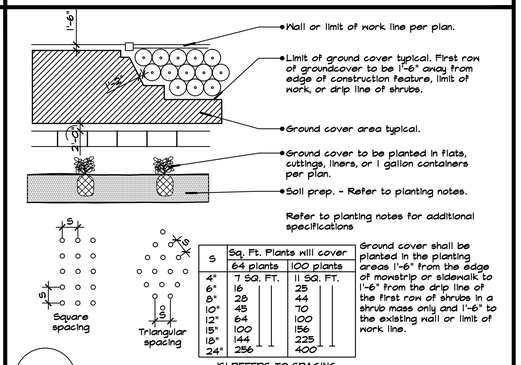


SIGNAGE ENLARGMENT 3/8" =1'-0"

SCALE: 1/2" = 1'-0"
SignParkRules(24).dwg

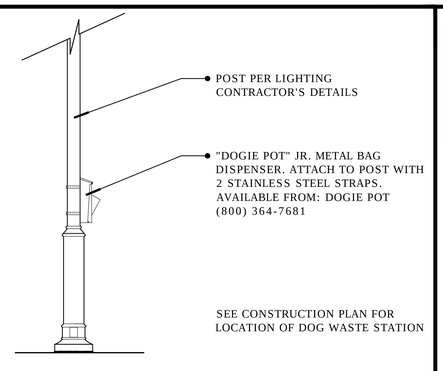


f LINEAR ROOT BARRIER SCALE: 3/4" = 1'-0"

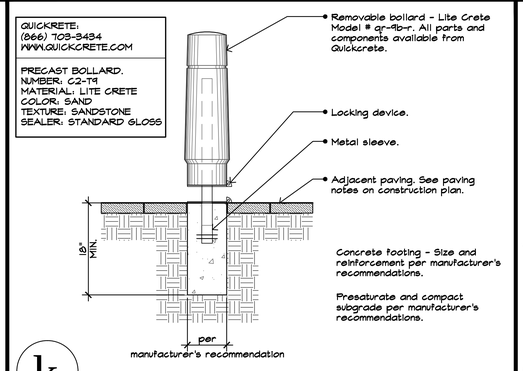


S	Sq. Ft. Plants will cover	
-	64 plants	100 plants
4"	7 SQ. FT.	11 SQ. FT.
6"	16	25
8"	28	44
10"	45	70
12"	64	100
15"	100	156
18"	144	225
24"	256	400

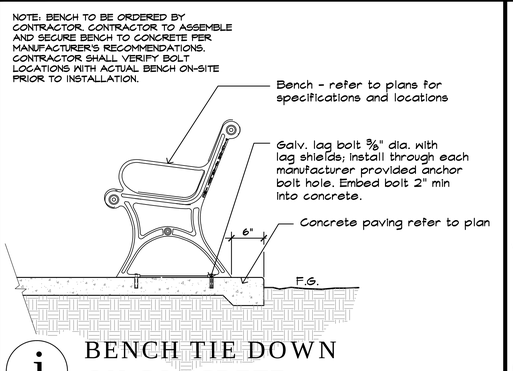
e GROUND COVER



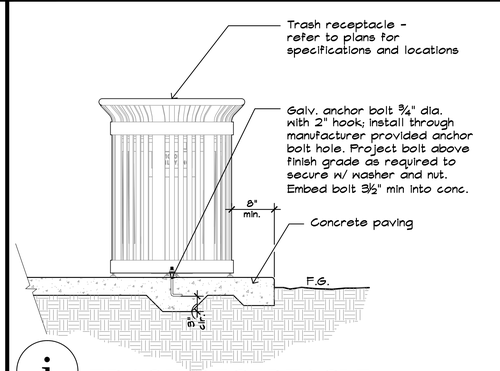
l DOG WATE STATION SCALE: 1/2"= 1'-0"



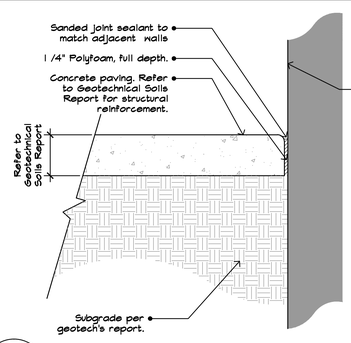
k REMOVABLE BOLLARD SCALE: 1" = 1'-0"



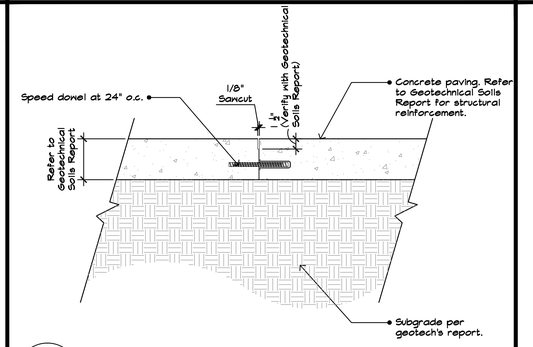
j BENCH TIE DOWN ON CONCRETE SCALE: 1" = 1'-0"



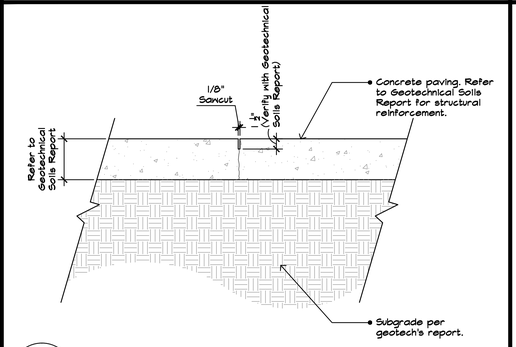
i TRASH RECEPTACLE SCALE: 1" = 1'-0"



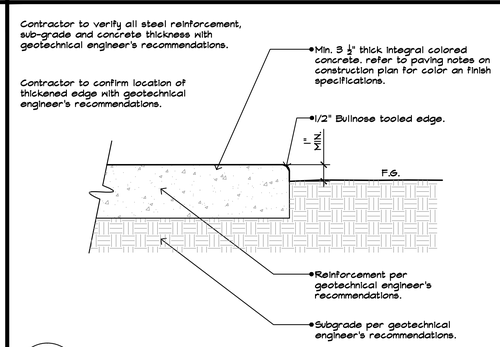
p ISOLATION JOINT SCALE: 1 1/2" = 1'-0"



o CONSTRUCTION JOINT SCALE: 1 1/2" = 1'-0"



n CONTROL JOINT SCALE: 1 1/2" = 1'-0"



m EDGE OF CONCRETE SCALE: 1" = 1'-0"

TOR010

REVISIONS

PUEBLO PARK

Landscape Improvement Plans

2252 Del Amo Boulevard, Torrance, California

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

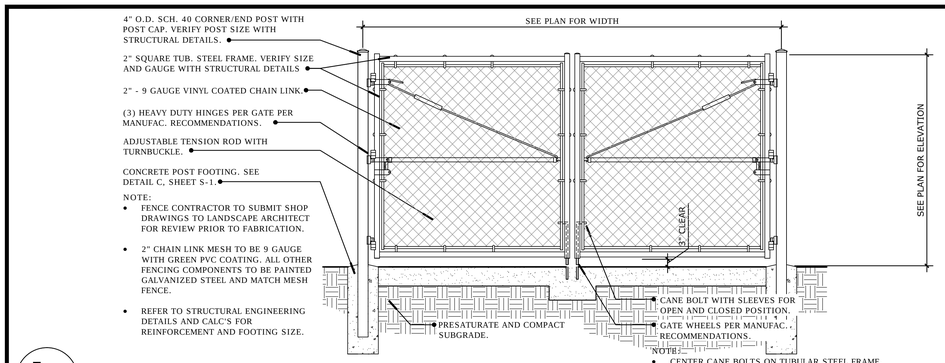
PLANTING & FLATWORK DETAILS

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: Staff
date: 04/02/14
scale: As Shown

SHEET L-200 of 10

Pueblo Park - City of Torrance



b VEHICULAR GATE

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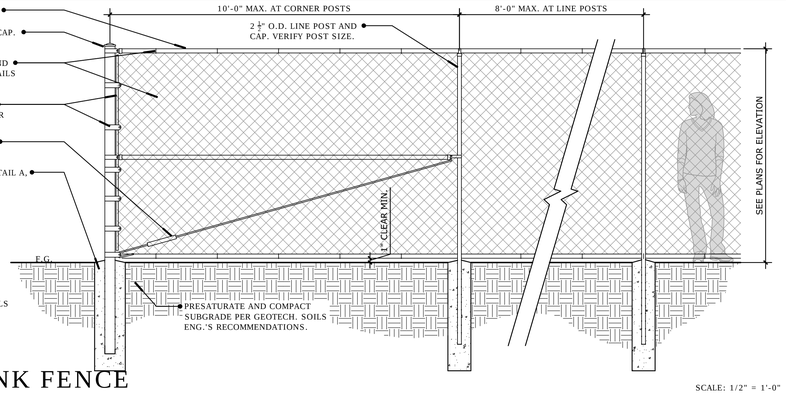
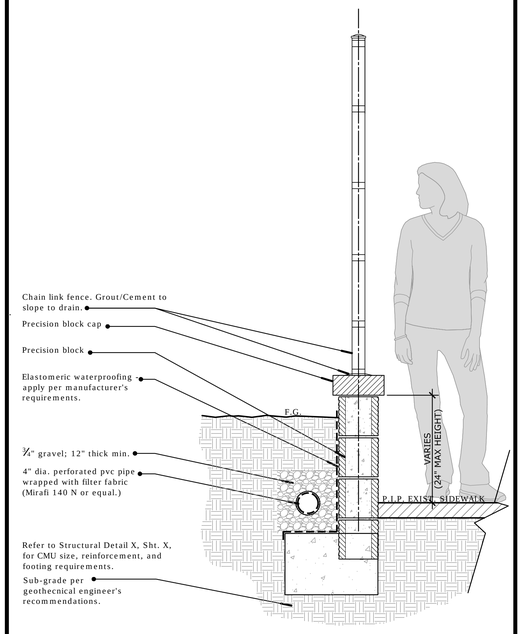
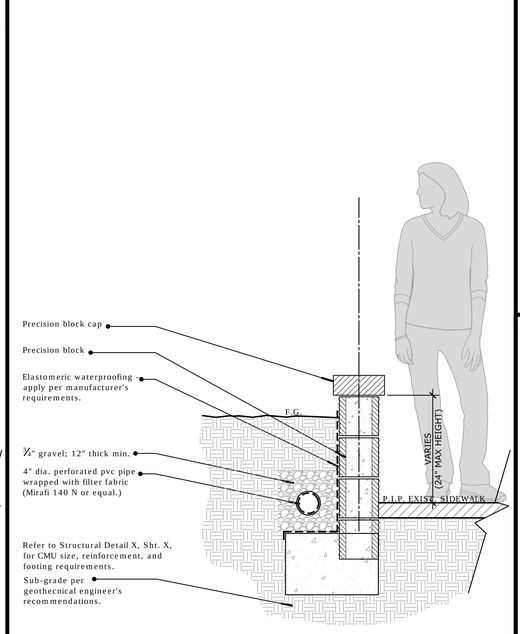


a CHAIN LINK FENCE

SCALE: 1/2" = 1'-0"

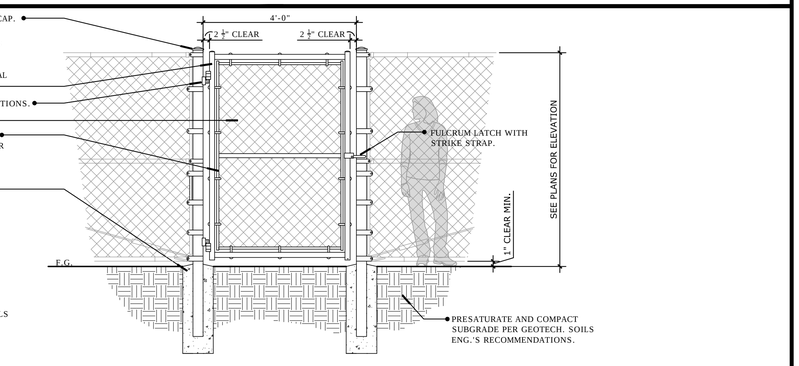


d RETAINING WALL



c RETAINING WALL

SCALE: 1/2" = 1'-0"



C CHAIN LINK GATE

SCALE: 1/2" = 1'-0"

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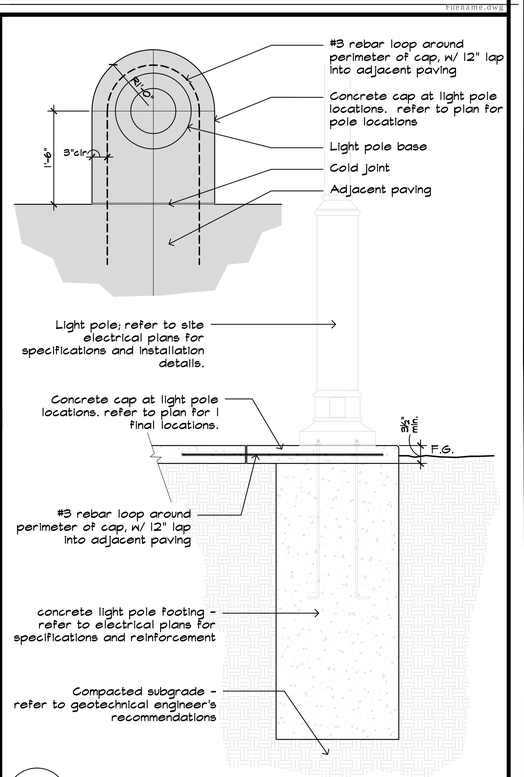

e CONC. CAP @ LIGHT POLE

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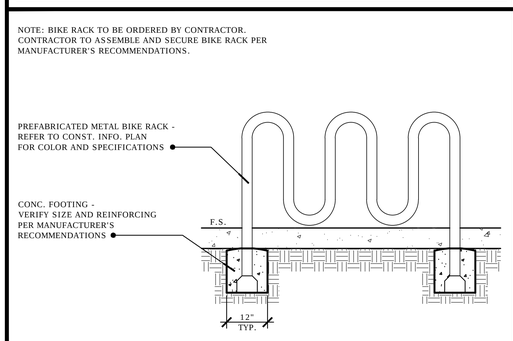
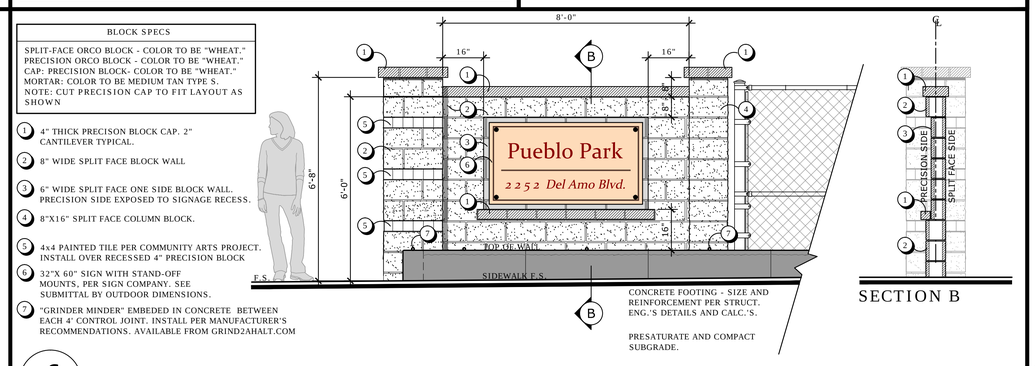


g BIKE RACK

SCALE: 3/4" = 1'-0"

Bike Rack1181.dwg



f DEL AMO BLVD. SIGNS

SCALE: 3/8" = 1'-0"

Filename.dwg

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CONSTRUCTION DETAILS

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LANDSCAPE ARCHITECTURE
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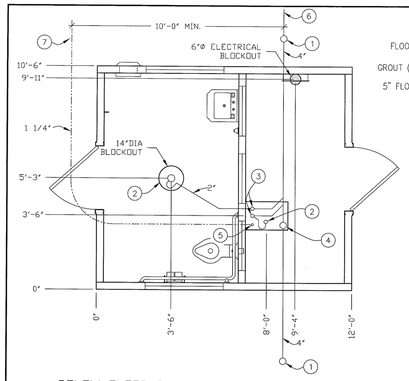
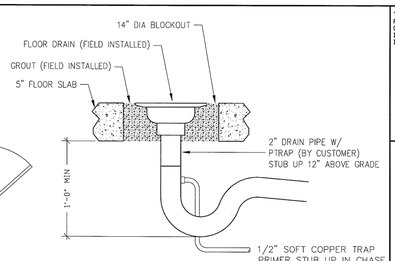
SHEET L-201 of 10

Pueblo Park - City of Torrance





FLOOR DRAIN DETAIL

BELOW FLOOR PIPING - KEY NOTES

1. 4" CLEAN OUT TO GRADE.
2. 2" FLOOR DRAIN. FIELD INSTALLED W/ TRAP PRIMER SYSTEM IF OPTION IS ACCEPTED. INSTALL AS SHOWN W/ VENT & WASTE PIPE. (14"DIA BLOCKOUT) (24"x16" BLOCKOUT)
3. 2" VENT EXTENDED 12" ABOVE FINISHED FLOOR LEVEL, (1 FOR EA FLOOR DRAIN IF FLOOR DRAIN OPTION ACCEPTED) PROVIDE TEST PLUG. (24"x16" BLOCKOUT)
4. 4" WASTE PIPE EXTENDED 12" ABOVE FINISHED FLOOR LEVEL. PROVIDE TEST PLUG. (24"x16" BLOCKOUT)
5. 1 1/4" TYPE K ANNEALED 'SOFT' COPPER WATER SERVICE EXTENDED 12" ABOVE FINISHED FLOOR LEVEL. PROVIDE TEST CAP AT END. (24"x16" BLOCKOUT)
6. 30" MIN. BURY, PROVIDE TRACER TAPE.
7. 4'-6" MIN. BURY.

PIPING LEGEND

BELOW FLOOR WASTE PIPING SCH 40 ABS TYPE DWV

1 1/4" TYPE 'K' ANNEALED 'SOFT' COPPER WATER SERVICE

ALL PIPING INDICATED ON THIS SHEET IS NOT BY CXT

FOR REFERENCE ONLY

8. RESTROOM TO BE EQUIPPED WITH AUTO-LOCKING DOORS.
9. INCLUDE SECURITY LIGHTS AT LOCATIONS SHOWN ON PLAN.
10. INCLUDE STAINLESS STEEL DRINKING FOUNTAINS.

THIS DRAWING IS SUPPLIED FOR REFERENCE ONLY. PLEASE CONTACT CXT ENGINEERING DEPARTMENT FOR BUILDING SPECIFIC CONTROLLED DOCUMENTS PRIOR TO ANY FIELD WORK.

CXT Precast Products

PROJECT TITLE: OZARK 1 CXT STANDARD BUILDING

NOTICE

CXT Incorporated

NO.	DESCRIPTION	APPROVAL	DATE
SCALE	3/16"=1'-0"	DATE	11-10-06
DRAWN	ROB D WALKER	FILE NO.	FOR REF.
CHECKED		PLOT	32

FLOOR DRAIN BLOCKOUTS & BELOW FLOOR PIPING

DWG NO.	SHEET	REV.
OZ 1-19	19 / 21	

b DRAINAGE CONNECTION DETAILS N.T.S.

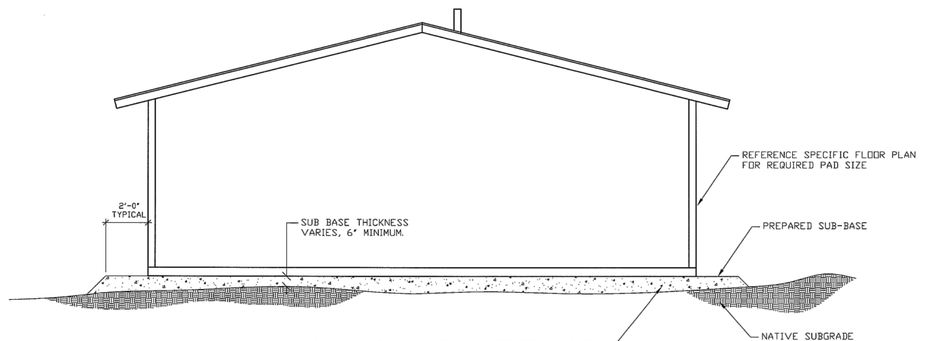
NOTE:

THIS FACTORY ASSEMBLED BUILDING AS CONSTRUCTED PROVIDES A RIGID BOX TYPE STRUCTURAL SYSTEM. VERTICAL LOADS ARE TRANSFERRED PRIMARILY THROUGH BEARING WALLS TO A PREPARED GRANULAR SUB-BASE WHICH DISSIPATES VERTICAL LOADS UNIFORMLY TO THE NATIVE SUBGRADE AND ALSO ACTS AS A FROST BARRIER. DUE TO THE INHERENT STIFFNESS OF THE BUILDING, IT WILL REMAIN SAFE AND STRUCTURALLY SOUND IN THE UNLIKELY EVENT OF FREEZING ACTION BELOW THE BUILDING.

LATERAL LOADS ARE TRANSFERRED TO THE GROUND THROUGH FRICTIONAL RESISTANCE WITHOUT SLIDING OR SHIFTING BETWEEN THE BUILDING FLOOR SLAB AND THE PREPARED SOIL AND GRAVEL SUB-BASE ON WHICH THE BUILDING RESTS. SEISMIC ANALYSES ARE BASED ON LOADS DETERMINED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE USING THE FOLLOWING PARAMETERS, WHICH MEET OR EXCEED THE CODE PRESCRIBED REQUIREMENTS FOR THIS INSTALLATION:

SPECTRAL ACCELERATIONS: SS = 3.41 & S1 = 1.59.
BEARING WALL SYSTEM WITH CONCRETE SHEAR WALLS, R = 5.5 & OMEGAO = 2.5.
SITE CLASS D
SEISMIC USE GROUP = I
20% OF THE 250 PSF SNOW LOAD IS INCLUDED TO DETERMINE SEISMIC LOADS
SOIL/CONCRETE FRICTION FACTOR = 0.35

THIS BUILDING, AS DESIGNED, RESTING ON A PROPERLY PREPARED GRANULAR SUB-BASE WILL BE SAFE AND STRUCTURALLY SOUND FOR VERTICAL AND LATERAL LOADS AS DISCUSSED ABOVE. A FULL DEPTH FOUNDATION WALL AT THE BUILDING PERIMETER, TYPICAL FOR OTHER TYPES OF BUILDING CONSTRUCTION, IS NOT REQUIRED FOR THIS BUILDING.



PRIOR TO PLACEMENT OF BUILDING A PROPERLY PREPARED SUB-BASE SHALL BE PROVIDED. SUB-BASE SHALL BE A MINIMUM OF 6" THICK AND CONSIST OF ¾" MINUS CRUSHED ROCK COMPACTED TO 95% OF OPTIMUM DENSITY IN ACCORDANCE WITH ASTM D 1557. FINISHED SURFACE OF SUB-BASE SHALL BE UNIFORMLY LEVEL, NOT VARYING MORE THAT ½" FROM A TRUE HORIZONTAL PLANE. REFER TO BUILDING HANDLING SHEET FOR SUB-BASE REQUIREMENTS DURING BUILDING PLACEMENT. (PREPARED SUB-BASE NOT BY CXT).

CXT Precast Products

PROJECT TITLE: CXT STANDARD BUILDING

NOTICE

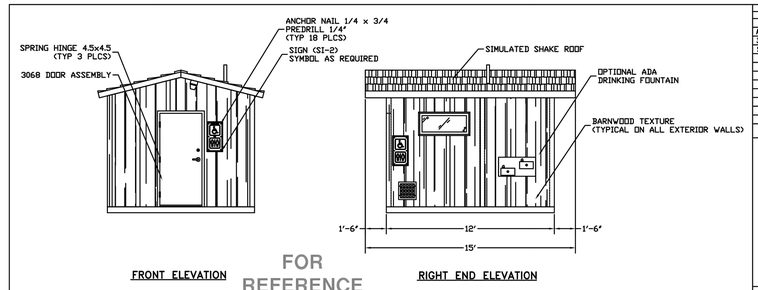
CXT Incorporated

NO.	DESCRIPTION	APPROVAL	DATE
SCALE	3/8"=1'-0"	DATE	03-14-07
DRAWN	ROB D WALKER	FILE NO.	07-060P
CHECKED		PLOT	32

GRAVEL PAD DETAIL

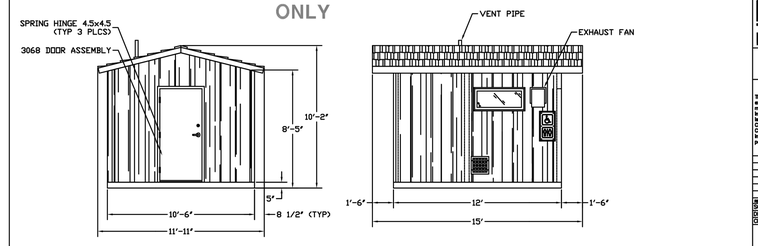
DWG NO.	SHEET	REV.

a PAD DETAIL N.T.S.



FRONT ELEVATION

RIGHT END ELEVATION



BACK ELEVATION

LEFT END ELEVATION

EMBEDDED MATERIALS

ITEM	QTY	ITEM	QTY
S-2	3		
ANCHOR NAIL 1/4x3/4	18		
3068 DOOR ASSEMBLY	2		
SPRING HINGE 4.5x4.5	6		

GAL. PL. COND. | MIL. PL. THICK. | APPROXIMATE WEIGHT

CXT Precast Products

PROJECT TITLE: OZARK 1 CXT STANDARD BUILDING

NOTICE

CXT Incorporated

NO.	DESCRIPTION	APPROVAL	DATE
SCALE	1/4"=1'-0"	DATE	03-28-05
DRAWN		FILE NO.	PD-021G2
CHECKED		PLOT	48

BUILDING ELEVATIONS

DWG NO.	SHEET	REV.
OZ 1-02		

d RESTROOM ELEVATIONS N.T.S.

c NOT USED N.T.S.

TOR010

REVISIONS

PUEBLO PARK

Landscape Improvement Plans

2252 Del Amo Boulevard, Torrance, California

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

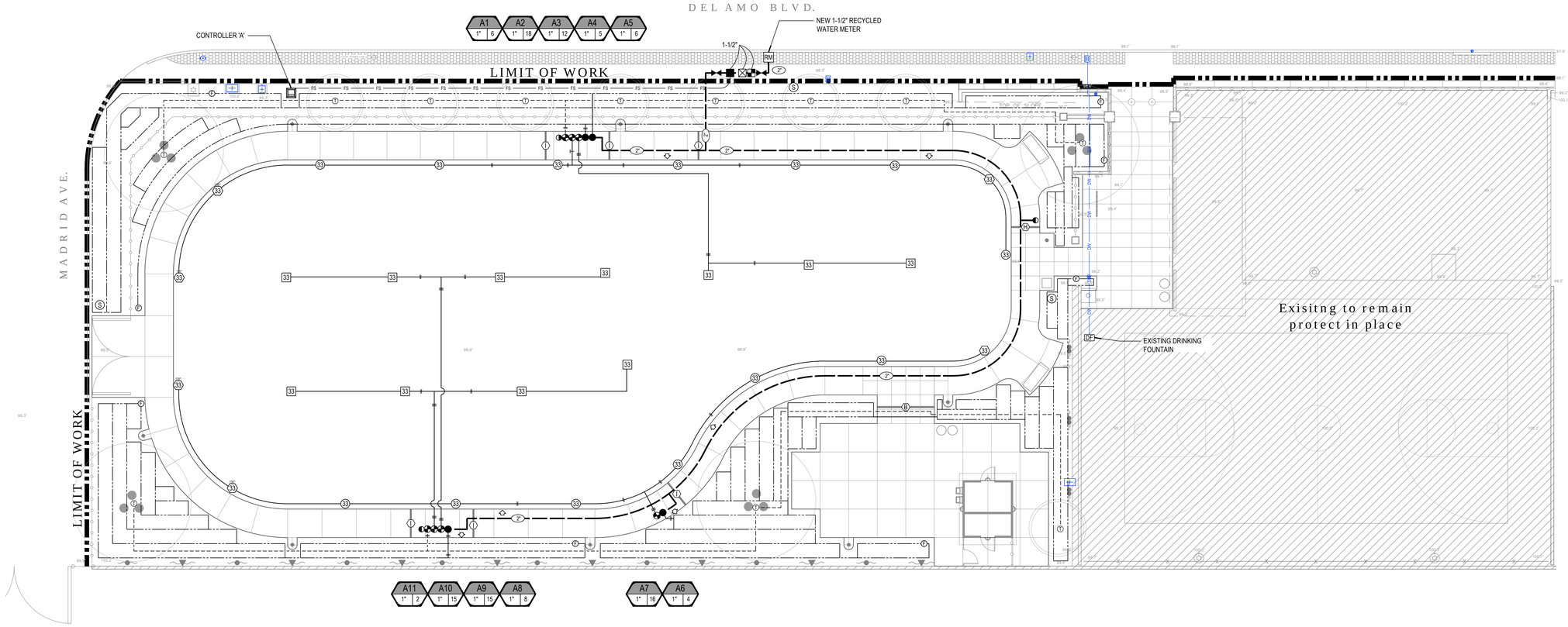
CONSTRUCTION DETAILS

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: Staff
date: 04/02/14
scale: As Shown

SHEET L-202 of 10

Pueblo Park - City of Torrance



CONTROLLER NOTE

CONTRACTOR SHALL PURCHASE AND INSTALL RAIN MASTER EAGLE PLUS i-CENTRAL CONTROLLER IN A STAINLESS STEEL TOP MOUNT STRONGBOX ENCLOSURE WITH ATTACHED RAIN SENSOR, CST FLOW SENSOR, STICK ANTENNA, MASTER VALVE COACH SWITCH, AND 2 YEAR SERVICE WARRANTY

CONTROLLER 'A' TOP MOUNT ASSEMBLY
JOHN DEERE GREENTECH SA6-RM2-16 / 2YR / RSE / GTFS-150P / MVCS

THE IRRIGATION CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTION TO CONTROLLER PER LOCAL ELECTRICAL CODE.

CONTACT RYAN GRIFFIN FOR ORDER INFORMATION (949) 455-7465

SLEEVING NOTES

- IRRIGATION PIPE AND LOW VOLTAGE CONTROL VALVE WIRE SHALL BE SLEEVED UNDER PAVING.
- SLEEVES TO BE MINIMUM TWICE THE DIAMETER OF THE PIPE SLEEVED.
- PRESSURE MAINLINE SLEEVES SHALL BE ACCOMPANIED WITH A MINIMUM 2" WIRE SLEEVE.
- SLEEVES TO EXTEND MINIMUM 12" BEYOND PAVING.
- PROTECT ALL SLEEVE ENDS TO PROHIBIT SOIL FROM ENTERING THE SLEEVE.
- IRRIGATION CONTRACTOR TO COORDINATE SLEEVING WITH THE HARDSCAPE CONTRACTOR PRIOR TO INSTALLATION OF ANY HARDSCAPE.
- REFER TO LEGEND FOR SLEEVE SPECIFICATION AND PLAN FOR SLEEVE SIZE MATRIX

EQUIPMENT LOCATION NOTES

ALL PIPING, ABOVE GROUND EQUIPMENT, AND ANY VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE OR IN TURF AREAS WITHOUT PERMISSION FROM THE IRRIGATION CONSULTANT. GROUP ALL VALVE BOXES AND LOCATE IN SHRUB AREAS ONLY. CONTRACTOR WILL BE RESPONSIBLE TO RE-LOCATE VALVE BOXES INSTALLED IN TURF AREAS AT NO COST TO THE OWNER.

EXTRA WIRE NOTE

TWO (2) CONTINUOUS, EXTRA WIRES SHALL BE PROVIDED FOR EACH MAINLINE DIRECTION. ALL EXTRA WIRES SHALL BE LOOPED IN EACH VALVE BOX WITH 24" COIL. TERMINATE IN THE LAST VALVE BOX. BUNDLE ALL EXTRA WIRES IN CONTROLLER. ALL EXTRA WIRE SHALL BE ORANGE IN COLOR.

LATERAL PIPE SIZING LEGEND

NO 1/2" PIPE PERMITTED

- 3/4" MINIMUM
- 1"
- 1-1/4"
- 1-1/2"
- 2"
- 2-1/2"
- 3"

SLEEVE SIZING LEGEND

REFER TO IRRIGATION LEGEND FOR SLEEVE MATERIAL. REFER TO DETAIL FOR BURIAL REQUIREMENTS

A	(2) 2"	H	(2) 4"
B	(3) 2"	I	(3) 4"
C	(4) 2"	J	(4) 4"
D	(2) 3"	K	(5) 4"
E	(3) 3"	L	(1) 6" + (2) 4"
F	(4) 3"	M	(1) 6" + (3) 4"
		N	(1) 6" + (4) 4"

G — GALVANIZED SLEEVE - TO BE MINIMUM 2X DIAMETER OF PIPE OVER TERRACE DRAIN

DIGALERT

DIAL 811

AT LEAST TWO DAYS BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

0 5 10 20

TOR010

REVISIONS

PUEBLO PARK

Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

IRRIGATION PLAN

WATER CONCERN, LTD.
Landscape Irrigation Consulting
26872 Santa Margarita Pkwy, Suite 200
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager: P. Stevens
approved by:
drawn by: Water Concern
date: 04/02/14
scale: 1" = 10'-0"

SHEET L300 of 10

Pueblo Park - City of Torrance

COUNTY OF LOS ANGELES DPH RECYCLED WATER NOTES

1. RECYCLED WASTEWATER SHALL MEET REQUIREMENTS SPECIFIED IN "WASTEWATER RECLAMATION CRITERIA": TITLE 22, DIVISION 4, CHAPTER 3, SECTION 60301 THROUGH 60355 OF THE CALIFORNIA CODE OF REGULATIONS AND REGULATIONS AND GUIDELINES OF THE REGULATORY AGENCIES.

2. RECYCLED WASTEWATER USE SHALL BE COMPATIBLE WITH STATE DEPARTMENT OF PUBLIC HEALTH AND REGIONAL WATER QUALITY CONTROL BOARD REQUIREMENTS.

3. PLANS AND SPECIFICATIONS FOR RECYCLED WASTEWATER DISTRIBUTION, USE AND OPERATIONAL PRACTICES SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH PRIOR TO IMPLEMENTATION AND CONSTRUCTION.

4. PRIOR TO COMMENCING CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH TO ARRANGE FOR INSPECTION OF ALL ON-SITE RECYCLED AND POTABLE WATER WORK. NO EXCAVATION OR OPEN TRENCH MAY BE BACKFILLED WITHOUT FIRST SECURING HEALTH DEPARTMENT APPROVAL. IF ANY PIPING, RECYCLED OR POTABLE, IS INSTALLED PRIOR TO PLAN CHECK APPROVAL AND/OR INSPECTION, ALL OR ANY PORTION OF THE SYSTEM MAY BE REQUIRED TO BE EXPOSED AND CORRECTED AS NECESSARY.

5. A LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH APPROVED **TEMPORARY** WATER CONNECTION TO A POTABLE WATER SUPPLY, VIA A , APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE, SHALL BE UTILIZED FOR THE PURPOSES OF FLUSHING, PRESSURE TESTING, CONSTRUCTION USES, INITIAL LANDSCAPE USE AND THE FINAL CROSS-CONNECTION TEST.

6. SEPARATION - IN ORDER TO MINIMIZE CONSTRUCTION ACCIDENTS RESULTING IN PIPELINE BREAKS, INFILTRATION OF WASTEWATER FROM LEAKING WASTEWATER LINES INTO DOMESTIC WATER LINES, OR ACCIDENTAL CROSS-CONNECTIONS BETWEEN RECYCLED WASTEWATER AND POTABLE WATER SYSTEMS, MAXIMUM ATTAINABLE SEPARATION OF RECYCLED WASTEWATER LINES AND POTABLE WATER LINES SHALL BE PRACTICED.
   A. PARALLEL CONSTRUCTION: THERE SHALL BE AT LEAST A TEN FOOT (10') SEPARATION, ALL DISTANCES MEASURED FROM PIPELINE OUTSIDE DIAMETER.
   B. CROSS-OVER CONSTRUCTION: AS PERPENDICULAR AS POSSIBLE; ONE FOOT (1') SEPARATION, WITH POTABLE ABOVE RECYCLED; FULL PIPE LENGTH CENTERED OVER CROSSING.
   C. ALTERNATE CROSS-OVER CONSTRUCTION (DISTANCE NOT MAINTAINED): EITHER THE POTABLE OR RECYCLED WATER LINES MAY BE SLEEVED WITH THE SAME CLASS PIPING FOR ONE FULL PIPE LENGTH (MINIMUM TEN FEET) CENTERED OVER THE CROSS-OVER.
   D. THE RECYCLED WASTEWATER SYSTEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH POTABLE WATER SYSTEM CONSTRUCTION STANDARDS AND IN ACCORDANCE WITH ALL OTHER GOVERNING CODES, RULES AND REGULATIONS.
   E. UNUSED OR ABANDONED POTABLE WATER LINES ARE TO BE SEVERED AS CLOSE TO WATER MAINS AS PRACTICAL, CAPPED AND A TEN-FOOT SECTION OF ABANDONED LINE REMOVED AND CEMENTED UNDER HEALTH DEPARTMENT SUPERVISION.

   EXISTING ON-SITE PIPING - TO THE EXTENT FEASIBLE, MAXIMUM SEPARATION OF RECYCLED WASTEWATER AND POTABLE WATER LINES SHALL BE PRACTICED UPON SYSTEM ADDITION OR MODIFICATION.

7. IDENTIFICATION: ALL RECYCLED WASTEWATER LINES (PRESSURE/NON-PRESSURE), VALVE BOXES, HYDRANTS AND APPURTENANCES SHALL BE IDENTIFIED TO CLEARLY DISTINGUISH BETWEEN RECYCLED WASTEWATER, NON-POTABLE AND POTABLE WATER SYSTEMS.

   A. RECYCLED WASTEWATER - ALL BURIED RECYCLED WASTEWATER LINES (PRESSURE/NON-PRESSURE) SHALL BE PURPLE COLORED PIPE WITH CONTINUOUS WORDING "CAUTION RECYCLED WATER" PRINTED ON OPPOSITE SIDES OF THE PIPE. FOR LIMITED APPLICATION, THE USE OF CONTINUOUS LETTERING ON THREE INCH (3") MINIMUM WIDTH PURPLE TAPE WITH ONE INCH BLACK OR WHITE CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "CAUTION RECYCLED WATER" PERMANENTLY AFFIXED AT FIVE FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS AND MAINS. IDENTIFICATION TAPE SHALL EXTEND TO ALL VALVE BOXES AND/OR VAULTS, EXPOSED PIPING, HYDRANTS AND QUICK COUPLERS.
   B. POTABLE WATER - ALL POTABLE WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE AND ALL BURIED POTABLE WATER LINES SHALL BE IDENTIFIED BY CONTINUOUS LETTERING ON OTHER GOVERNING CODES, RULES AND REGULATIONS. ALL THREE INCH (3") MINIMUM WIDTH BLUE TAPE WITH ONE INCH WHITE LETTERING BEARING THE CONTINUOUS WORDING "POTABLE WATER" PERMANENTLY AFFIXED AT TEN FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS AND MAINS. IDENTIFICATION TAPE SHALL EXTEND TO ALL VALVE BOXES AND/OR VAULTS, EXPOSED PIPING AND HYDRANTS. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED COLORED PVC WITH CONTINUOUS WORDING "POTABLE WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE.
   C. NON-POTABLE WATER - ALL NON-POTABLE IRRIGATION/INDUSTRIAL WATER LINES (PRESSURE/NON-PRESSURE) SHALL BE IDENTIFIED BY CONTINUOUS LETTERING ON THREE INCH (3") MINIMUM WIDTH TAPE WITH ONE INCH CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "NON-POTABLE WATER" PERMANENTLY AFFIXED AT TEN FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS AND MAINS. IDENTIFICATION TAPE SHALL EXTEND TO ALL VALVE BOXES AND/OR VAULTS, EXPOSED PIPING, HYDRANTS AND QUICK COUPLERS. NON-POTABLE WATER IS WATER SUPPLIED FROM THE POTABLE WATER SYSTEM THROUGH AN APPROPRIATE BACKFLOW PREVENTER.
   D. EXPOSED PIPING, VALVE BOXES, VAULTS, CONTROL VALVES, QUICK COUPLING VALVES, OUTLETS AND RELATED APPURTENANCES SHALL BE COLOR CODED AND LABELED OR TAGGED TO DIFFERENTIATE BETWEEN RECYCLED WASTEWATER, POTABLE WATER AND NON-POTABLE WATER SYSTEMS, I.E.,

   I. "CAUTION RECYCLED WATER DO NOT DRINK" IN BLACK OR WHITE CONTRASTING LETTERING ON A PURPLE BACKGROUND.
   II. "POTABLE WATER" IN WHITE LETTERING ON A BLUE OR GREEN BACKGROUND.
   III. "NON-POTABLE WATER - DO NOT DRINK" IN CONTRASTING LETTERING FROM THE BACKGROUND.

   TAGS SHALL BE IDENTIFIED WITH THE APPROPRIATE WORDING ON BOTH SIDES. TAGS IDENTIFYING RECYCLED WATER SHALL HAVE THE APPROPRIATE WORDING ON ONE SIDE AND SYMBOL ON THE OPPOSITE SIDE.

8. AQUIFERS SHALL BE PROTECTED AGAINST CONTAMINATION BY RECYCLED WASTEWATER VIA DETERIORATED OR INADEQUATELY PROTECTED WATERWELL CASINGS BY CORRECTING THESE PHYSICAL DEFICIENCIES. RECYCLED WASTEWATER SHALL NOT BE SPRAYED ON WELL PUMP INSTALLATIONS AND APPURTENANCES.

9. AN ON-SITE WATER SUPERVISOR HAVING THE RESPONSIBILITY FOR THE PROTECTION OF THE POTABLE WATER SYSTEM FROM CROSS-CONNECTIONS, SHALL BE APPOINTED AS PROVIDED FOR UNDER TITLE 17, SECTION 7586, CALIFORNIA CODE OF REGULATIONS. THE WATER SUPERVISOR SHALL BE RESPONSIBLE FOR INSTALLATION, OPERATION, AND MAINTENANCE OF THE RECYCLED WASTEWATER AND POTABLE WATER SYSTEMS, PREVENTION OF POTENTIAL HAZARDS, IMPLEMENTING THESE GUIDELINES AND COORDINATION WITH THE CROSS-CONNECTION CONTROL PROGRAM OF THE WATER PURVEYOR AND THIS DEPARTMENT. AUTHORIZATIONS FOR PIPING CHANGES OR ADDITIONS TO EITHER THE POTABLE OR RECYCLED WASTEWATER SYSTEMS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE WATER SUPERVISOR. THE NAME AND POSITION OF THIS INDIVIDUAL SHALL BE REPORTED TO THE WATER PURVEYOR AND THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH.

10. AS-BUILT PLANS SHALL BE PREPARED AND UPDATED AS NECESSARY BY THE USER SHOWING THE LOCATION OF RECYCLED WASTEWATER AND POTABLE WATER SYSTEM PIPING.

11. IN AREAS OF PUBLIC ACCESS TO RECYCLED WASTEWATER SYSTEMS, HOSE BIBS SHALL NOT BE PERMITTED IN ORDER TO PREVENT THE UNAUTHORIZED USE OF RECYCLED WASTEWATER. QUICK-COUPLERS ARE PERMISSIBLE IN LIEU OF HOSE BIBB OUTLETS AND SHALL ONLY BE CONNECTED TO RECYCLED WASTEWATER LINES. IN AREAS NOT ACCESSIBLE TO THE PUBLIC, HOSE BIBBS MAY BE PERMITTED PROVIDED THEY ARE PROPERLY IDENTIFIED WITH PERMANENTLY AFFIXED TAGS, LABELS, OR PLATES WITH THE WORDING "RECYCLED WATER - DO NOT DRINK" IN ENGLISH AND SYMBOL

12. EXPOSURE OF DRINKING FOUNTAINS AND PICNIC TABLES TO DIRECT RECYCLED WASTEWATER SPRAY SHALL BE MINIMIZED BY A COMBINATION OF SELECTIVE LOCATION OF SUCH EQUIPMENT AND BY APPROPRIATE IRRIGATION SYSTEM DESIGN.

   A. RECYCLED WASTEWATER SPRAYING SHALL BE DONE IN HOURS OF LEAST PUBLIC EXPOSURE.
   B. AREAS WHERE RECYCLED WASTEWATER IS RELEASED, USED OR IMPOUNDED SHALL BE POSTED (E.G., RECYCLED WATER - DO NOT DRINK), TO INFORM THE PUBLIC THAT RECYCLED WATER IS BEING USED.
   C. IRRIGATION PRACTICE SHALL BE CONTROLLED TO PREVENT SURFACE RUNOFF OF RECYCLED WASTEWATER FROM LANDS OWNED OR CONTROLLED BY THE USER.

13. BACKFLOW PROTECTION

   A. THERE SHALL BE NO INTERCONNECTION BETWEEN THE POTABLE WATER SYSTEM AND THE RECYCLED WATER SYSTEM WITHIN THE USER'S PREMISES.
   B. A DYE OR PRESSURE TEST MUST BE UTILIZED TO CONFIRM THE PHYSICAL SEPARATION OF THE RECYCLED AND POTABLE WATER SYSTEMS. SAID TESTING SHALL BE PERFORMED IN CONJUNCTION WITH THE WATER PURVEYOR AND THIS DEPARTMENT AND CONDUCTED BEFORE THE INTRODUCTION OF RECYCLED WASTEWATER. (REFER TO ITEM # 5)
   C AN APPROVED BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED AT THE POTABLE WATER SERVICE CONNECTION(S).
   D. IN ORDER TO MAINTAIN THE WATER QUALITY IN A RECYCLED WASTEWATER DISTRIBUTION SYSTEM A BACKFLOW PREVENTION DEVICE(S) MAY BE REQUIRED AT THE RECYCLED WASTEWATER METER OR AT SPECIFIC ON-SITE LOCATIONS WHERE SAID USE COULD DEGRADE THE QUALITY OF THE RECYCLED WASTEWATER SUPPLY.

GENERAL IRRIGATION NOTES

1. ALL MAIN LINE AND LATERAL LINE PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. MAIN AND LATERAL LINE SLEEVES SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEEVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING.
2. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWING. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.
3. INSTALL ALL PIPING BETWEEN THE POINT OF CONNECTION AND THE BASKET STRAINER OR THE R.P. BACKFLOW PREVENTOR AS PER LOCAL CODES.
4. FINAL LOCATION OF THE AUTOMATIC CONTROLLER AND BASKET STRAINER OR THE R.P. BACKFLOW SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT PRIOR TO INSTALLATION.
5. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER. PER LOCAL ELECTRICAL CODES.
6. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVERSPRAY ONTO WALKS, STREETS, WALLS, ETC.
8. THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
9. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO BECOME FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY THEIR WORK. WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND PAVING, ETC.
10. THE SPRINKLER SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE AS SHOWN ON THE PLANS. CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO START OF WORK.
11. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA EXIST THAT ARE NOT SHOWN ON THE PLANS. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
12. ALL SPRINKLER EQUIPMENT NOT DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
13. THE IRRIGATION CONTRACTOR SHALL INSTALL KBI SERIES ANTI DRAIN VALVES ON ALL HEADS IN AREAS WHERE FINISH GRADE EXCEEDS 4:1, WHERE POST VALVE SHUT-OFF DRAINING OF THE IRRIGATION SYSTEM OCCURS OR AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
14. THE CONTRACTOR SHALL PROVIDE PRESSURE COMPENSATION SCREENS (PCS) AS NECESSARY TO ELIMINATE OVERSPRAY ONTO STREETS, WALKS OR OTHER AREAS AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
15. SHRUB HEADS AND RISERS MAY BE SUBSTITUTED FOR POP-UP HEADS IN PLANTED AREAS EXCEPT WHERE ADJACENT TO TRAFFIC AREAS SUCH AS WALKS, CURBS, TURF LINES, MONUMENTS, FOUNTAINS, OR SIGNAGE. REFER TO INSTALLATION DETAILS.

RAINBIRD ROTOR LEGEND - RECYCLED WATER

SYMBOL	DESCRIPTION	MANUFACTURER PART NO.	NOZZLE	PATTERN	FLOW	RADIUS	PRES	PRECIP
TURF POP UP HEADS								
31	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R13-18 F	FULL	1.60	16'	30	0.61
31	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R13-18 H	HALF	0.80	16'	30	0.61
31	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R13-18 Q	QRTR	0.40	16'	30	0.61
31	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R13-18 T	THRD	0.65	16'	30	0.61
32	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R17-24 F	FULL	3.00	21'	30	0.65
32	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R17-24 H	HALF	1.50	21'	30	0.65
32	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R17-24 Q	QRTR	0.75	21'	30	0.65
32	TURF ROTOR	RAINBIRD 1806 SAM PRS NP	R17-24 T	THRD	1.22	21'	30	0.65
33	TURF ROTOR	RAINBIRD 5006 PL-R SAM FC NP	MPR 25 FULL	FULL	3.82	25'	45	0.59
33	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 25 HALF	HALF	1.98	25'	45	0.61
33	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 25 QRTR	QRTR	1.00	25'	45	0.62
33	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 25 THRD	THRD	1.38	25'	45	0.64
34	TURF ROTOR	RAINBIRD 5006 PL-R SAM FC NP	MPR 30 FULL	FULL	5.78	30'	45	0.62
34	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 30 HALF	HALF	2.96	30'	45	0.63
34	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 30 QRTR	QRTR	1.40	30'	45	0.60
34	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 30 THRD	THRD	1.85	30'	45	0.59
35	TURF ROTOR	RAINBIRD 5006 PL-R SAM FC NP	MPR 35 FULL	FULL	7.58	35'	45	0.60
35	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 35 HALF	HALF	3.81	35'	45	0.60
35	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 35 QRTR	QRTR	1.92	35'	45	0.60
35	TURF ROTOR	RAINBIRD 5006 PL-R SAM PC NP	MPR 35 THRD	THRD	2.46	35'	45	0.58

NOTE: ALL IRRIGATION HEADS ARE SPECIFIED WITH PURPLE NON-POTABLE IDENTIFICATION CAPS.

IRRIGATION EQUIPMENT LEGEND

SYMBOL	ITEM - MANUFACTURER - MODEL NUMBER - DESCRIPTION
RM	RECYCLED WATER METER — CONTRACTOR TO FURNISH AND INSTALL RECYCLED WATER METER. REFER TO PLAN FOR SIZE - VERIFY STATIC WATER PRESSURE AND REPORT TO IRRIGATION CONSULTANT PRIOR TO START OF WORK
	GATE VALVE — NIBCO T-113-K IRR BRONZE CROSS TOP - LINE SIZE UP TO 3"
	BASKET STRAINER — KECKLEY SSGFV CLASS 150 CAST 316 STAINLESS STEEL BASKET STRAINER WITH 60 MESH STAINLESS STEEL SCREEN - REFER TO PLAN FOR SIZE
	MASTER VALVE — RAINBIRD GB SERIES NORMALLY CLOSED BRASS MASTER VALVE WITH SOL-ADA HEAVY DUTY SOLENOID - REFER TO PLAN FOR SIZE
	FLOW SENSOR — CREATIVE SENSOR TECHNOLOGY INCLUDED WITH CONTROLLER ASSEMBLY REFER TO CONTROLLER NOTE
	CONTROL VALVE — RAINBIRD PESB-R CONTROL VALVE - REFER TO PLAN FOR SIZES
	CONTROL VALVE DRIP — RAINBIRD PESB-R 1" CONTROL VALVE INCLUDE A RAINBIRD PRB-QKCHK-100 40 PSI PRESSURE REGULATING 120 MESH QUICK CHECK BASKET FILTER (SPECIAL ORDER ITEM)
	QUICK COUPLER — HUNTER HQ44-LRC-AW-R 1" ACME QUICK COUPLER WITH PURPLE VINYL LOCKING COVER INCLUDE TWO (2) HK-44A KEYS WITH HS1 SWIVEL PER CONTROLLER
T	TREE IRRIGATION — THREE (3) RAINBIRD 1806 SAM PRS - POP UP SPRAY HEADS WITH 5H-B NOZZLES AND PCS 020 BROWN SCREENS
F	FLUSH VALVE — 1/2" PVC BALL VALVE FOR DRIP SYSTEM END FLUSH
S	RECYCLED WATER SIGN — RECYCLED WATER WARNING ID SIGN - T CHRISTY MODEL ID-SIGN 3.5 (12" X 18") ALUMINUM WITH 1-1/2" SQUARE ALUMINUM POST
C	CONTROLLER — STRONGBOX TOP MOUNTED STAINLESS STEEL CONTROLLER ASSEMBLY REFER TO CONTROLLER NOTE FOR MODEL NUMBER AND FEATURES
	BELOW GRADE PRESSURE MAINLINE — PURPLE CLASS 315 PRESSURE MAINLINE FOR PIPE 2" THROUGH 3" PURPLE SCH 40 PRESSURE MAINLINE FOR PIPE 1-1/2" AND SMALLER ALL PIPE TO BE SOLVENT WELD REFER TO TRENCHING DETAIL FOR DEPTHS
	BELOW GRADE LATERAL LINE — PURPLE SCHEDULE 40 SOLVENT WELD PVC - 3/4" MINIMUM REFER TO PLAN FOR SIZES AND TRENCHING DETAIL FOR BURIAL DEPTHS
	DRIP LATERAL — PURPLE SCHEDULE 40 SOLVENT WELD PVC - 3/4" MINIMUM REFER TO SHRUB EMITTER DETAIL FOR BURIAL DEPTHS.
	TREE IRRIGATION LATERAL — PURPLE SCHEDULE 40 SOLVENT WELD PVC LATERAL LINE - 3/4" MINIMUM REFER TO PLAN FOR SIZES AND TRENCHING DETAIL FOR BURIAL DEPTHS
X	SLEEVE — PURPLE SCHEDULE 40 PVC REFER TO SLEEVING LEGEND FOR QUANTITY AND SIZE
FS FS	FLOW SENSOR CABLE — RAINMASTER EV-CAB-SEN TWO WIRE FLOW SENSOR CABLE IN A GRAY SCHEDULE 40 PVC 1-1/4" CONDUIT WITH PULL BOXES AT 200' O.C. - NO SPLICES
DW DW	DOMESTIC WATER LINE — DOMESTIC WATER LINES PER CIVIL PLANS - FOR REFERENCE ONLY
RW RW	RECYCLED WATER LINE — RECYCLED WATER LINES PER CIVIL PLANS - FOR REFERENCE ONLY
NOT SHOWN	DRIP EMITTERS — RAINBIRD XB - 20 PC -1032 2 GPH THREADED PRESSURE COMPENSATING DRIP EMITTERS ON GPH IRRIGATION PRODUCTS GIH-12 1/2" X 12" FLEXIBLE SCHEDULE 40 RISER. REFER TO SCHEMATIC AND EMITTER DETAILS.
NOT SHOWN	IRRIGATION WIRE — PAIGE 7001D UL LISTED U.F. 600V DIRECT BURIAL PILOT WIRE 14 AWG BLACK COMMON 14 AWG WHITE WITH BLACK STRIPE EXTRA WIRE 14 AWG ORANGE FUTURE WIRE 14 AWG YELLOW
NOT SHOWN	WIRE CONNECTORS — 3M DBY OR 3M DBR WATERPROOF DIRECT BURY CONNECTORS
NOT SHOWN	MAINLINE FITTINGS — PRESSURE MAINLINE FITTINGS TO BE SCHEDULE 40 PVC SOLVENT WELD
	LATERAL FITTINGS — NON-PRESSURE LATERAL LINE FITTINGS TO BE SCHEDULE 40 PVC SOLVENT WELD (ABOVE GRADE PIPE FITTINGS SHALL BE UVR)
NOT SHOWN	ID TAGS — T CHRISTY ID-MAX-P2-RC006 PURPLE BILINGUAL RECYCLED WATER WARNING TAG - PER VALVE
NOT SHOWN	VALVE BOX — RECTANGULAR CARSON 1419 - 14" X 19" CIRCULAR CARSON 910 - 10" ROUND JUMBO CARSON 1220 - 12" X 20" JUMBO BOX / LID COLOR: PURPLE - INCLUDE BOLT DOWN LOCKING LID

A1 / 60 — DENOTES STATION NUMBER; DENOTES VALVE FLOW (GPM); DENOTES VALVE SIZE

IRRIGATION PRESSURE CALCULATION TABLE

Water Meter No. 1 — **Size** 1.50"
Hydraulic Gradient
Elevation of Meter 98.0'
Static Pressure 42 psi
Source of Information
Phone Number
Date of Information
Basis for Calculation Longest Run/Highest Elevation/Highest Flow

Valve Information
Remote Control Valve A10 — **Size** 1.00"
Demand 15 GPM
Elevation of Highest Head 99.0'

Friction Loss

QTY.	SIZE	FLOW	ITEM	TYPE	PSI LOSS
40'	1.50"	15 GPM	Service Line	Copper	0.43
1	1.50"	15 GPM	Water Meter		0.45
	1.50"	15 GPM	RP Backflow w/ Strainer		
1	1.50"	15 GPM	Basket Strainer		6.00
1	1.50"	15 GPM	Master Valve		2.30
1	1.50"	15 GPM	Flow Sensor		0.10
2	2.00"	15 GPM	Gate Valves		0.01
275'	2.00"	15 GPM	Mainline	PVC	0.57
	1.00"	15 GPM	Automatic Control Valve		2.70
			Lateral Line Loss		4.00
			Fittings Loss (10%)		1.66
			Elevation Change		0.43
			Total System Losses		19 psi
			Pressure Required to Operate Head (MPR Rotor)		45 psi
			Residual Percent Required (%)		10%
			Pressure Required with Residual		**73 psi**
			Static Pressure at Water Meter		**-42 psi**
			Residual Pressure		**-115 psi**
			Set Pressure Regulator to		**-42 psi**

WATER USAGE ESTIMATION

Controller A

CATEGORY	UNITS	1	2	3	4	5	6	7	8
HYDROZONE CALLOUT		TURF MODERATE	SHRUB MODERATE						
HYDROZONE									
WATER USE REQUIREMENT									
HYDROZONE AREA (HA)	Square Feet	10,692	5,668						
IRRIGATION METHOD		ROTOR	DRIP						
WATER TYPE		RECYCLED	RECYCLED						
SPECIAL LANDSCAPE AREA (SLA)		YES	YES						
SPECIAL LANDSCAPE AREA	Square Feet	10692	5668						
PERCENT AREA USE	Percentage	**65%**	**35%**						
YEARLY ETo ***	Inches / Year	42.60	42.60						
YEARLY AVG PLANT FACTOR (PF)		0.60	0.50						
ESTIMATED EFFICIENCY (IE)	Percentage	80%	90%						
ESTIMATED WATER USAGE PER ZONE (EWU)	HCF / Year	283	111						
	Gallons / Year	211,798	83,168						
	As Ft / Year	0.65	0.26						
ESTIMATED TOTAL WATER USAGE	HCF / Year	**394**							
	Gallons / Year	**294,966**							
	As Ft / Year	**0.905**							
MAXIMUM APPLIED WATER ALLOWANCE	HCF / Year	**578**							
	Gallons / Year	**432,100**							
	As Ft / Year	**1.33**							

FORMULAS
MAWA = Eto x 0.62 x [(0.7 x LA) + (0.3 x SLA)]
ETWU = Eto x 0.62 x [PF x HA) / IE].

TOTAL LANDSCAPE AREA	TOTAL SPECIAL LANDSCAPE AREA	UNITS
16,360	16,360	SQ. FT.
0.38	0.38	ACRES

SITE IRRIGATION EFFICIENCY	SITE PLANT FACTOR	MAWA COMPLIANT
83%	0.57	YES

*** Yearly ETo obtained from ..... CIMIS Map Zone

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REVISIONS

PUEBLO PARK

Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

IRRIGATION PLAN

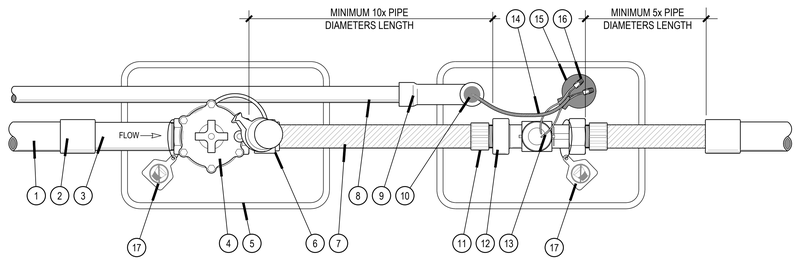
WATER CONCERN, LTD.
Landscape Irrigation Consulting
29839 Santa Margarita Pkwy, Suite 100
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager: P. Stevens
approved by:
drawn by: Water Concern
date: 04/02/14
scale: No Scale

SHEET L301 of 10

Pueblo Park - City of Torrance

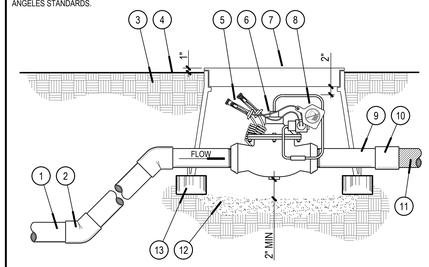
SENSOR SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. MAINLINE
2. SOLVENT WELD PVC COUPLING - REFER TO LEGEND FOR TYPE
3. SCHEDULE 80 PVC THREAD ONE END (T.O.E.) NIPPLE - INLET SIZE - MINIMUM 12" LENGTH
4. MASTER VALVE - REFER TO MASTER VALVE DETAIL
5. RECTANGULAR VALVE BOX - REFER TO LABELING DETAIL
6. SCHEDULE 80 PVC MALE ADAPTER WITH REDUCING BUSHING TO MATCH SENSOR INLET SIZE
7. MAINLINE PIPING - FLOW SENSOR INLET SIZE
8. 1.25" SCHEDULE 40 PVC ELECTRICAL CONDUIT WITH PULL BOXES AT 200' O.C. (AS REQUIRED)
9. SCHEDULE 40 PVC LONG SWEEP ELL
10. WATERPROOF CONDUIT INLET WITH FOAM AFTER WIRE PULL
11. SCHEDULE 80 PVC MALE ADAPTER - INLET SIZE
12. FLOW SENSOR - REFER TO LEGEND
13. RED AND BLACK FLOW SENSOR WIRES - VERIFY POLARITY WITH CONNECTION TO CABLE
14. FLOW SENSOR COMMUNICATION CABLE
15. 3M SCOTCHLOK™ 3570 CONNECTOR SEALING PACK - INSTALL PER MANUFACTURER INSTRUCTIONS
16. BLUE SCOTHLOK WIRE CONNECTORS - TWO REQUIRED
17. RECYCLED WATER WARNING ID TAG

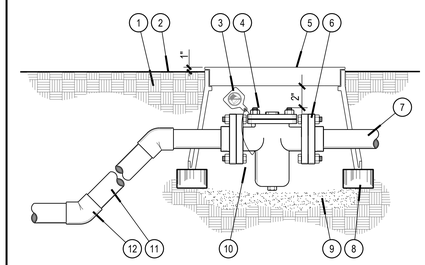
FLOW SENSOR ASSEMBLY

VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. MAINLINE
2. PVC 45° ELL
3. SUB-GRADE
4. FINISH GRADE
5. WIRE CONNECTORS - 3M DBY WITH SCOTCHLOK CONNECTORS - PROVIDE 24" EXPANSION COIL
6. MASTER VALVE - REFER TO LEGEND
7. JUMBO VALVE BOX - LABEL PER BRANDING DETAIL
8. RECYCLED WATER WARNING ID TAG
9. SCHEDULE 80 PVC THREAD ONE END NIPPLE, MINIMUM 6" LENGTH TO EXTEND PAST VALVE BOX
10. SOLVENT WELD PVC COUPLING - REFER TO LEGEND FOR TYPE
11. MAINLINE PIPE TO FLOW SENSOR - REFER TO PLAN
12. 3/4" CRUSHED GRAVEL - 12" DEEP
13. BRICK SUPPORT - FOUR REQUIRED

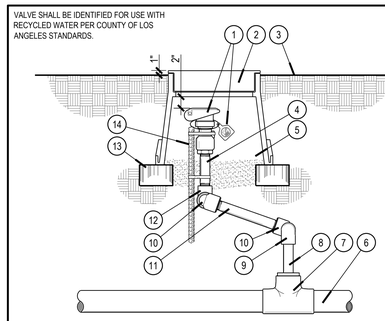
MASTER VALVE - THREADED



1. SUB-GRADE
2. FINISH GRADE
3. RECYCLED WATER WARNING ID TAG
4. FLANGED BASKET STRAINER - REFER TO LEGEND
5. JUMBO VALVE BOX - LABEL PER BRANDING DETAIL
6. SCHEDULE 80 PVC SOLVENT WELD FLANGE ADAPTER WITH STAINLESS STEEL HARDWARE
7. MAINLINE PIPE TO MASTER VALVE - REFER TO PLAN
8. BRICK SUPPORT - FOUR REQUIRED
9. 3/4" CRUSHED GRAVEL - 12" DEEP
10. COAT AND TORQUE ALL BOLT HARDWARE PER MANUFACTURER'S RECOMMENDATIONS
11. MAINLINE
12. PVC 45° ELL

BASKET STRAINER - FLANGED

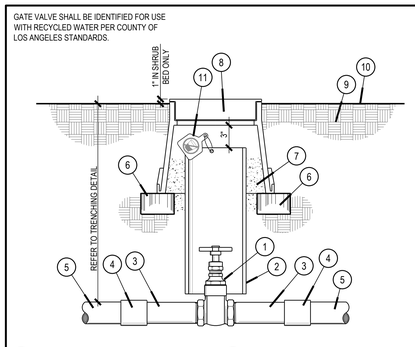
VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. BRASS QUICK COUPLER WITH PURPLE LOCKABLE CAP. INCLUDE PURPLE RECYCLED WARNING TAG
2. ROUND VALVE BOX - LABEL PER BRANDING DETAIL
3. FINISH GRADE
4. BRASS NIPPLE - INLET SIZE 3" LENGTH
5. 3/4" CRUSHED GRAVEL - 12" DEEP
6. MAINLINE
7. MAINLINE TEE OR ELL FITTING WITH BUSHING TO ADAPT PIPE TO INLET SIZE OF QUICK COUPLER
8. SCHEDULE 80 PVC RISER - MINIMUM 4" LENGTH
9. SCHEDULE 80 PVC SLIP x THREAD ELL
10. BRASS STREET ELL - INLET SIZE
11. BRASS NIPPLE - INLET SIZE 12" MINIMUM LENGTH
12. BRASS ELL - INLET SIZE
13. BRICK SUPPORT - TWO REQUIRED
14. #4 REBAR, 18" LONG - SECURE TO QUICK COUPLER WITH TWO STAINLESS STEEL HOSE CLAMPS

QUICK COUPLER w/ SUPPORT

GATE VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.

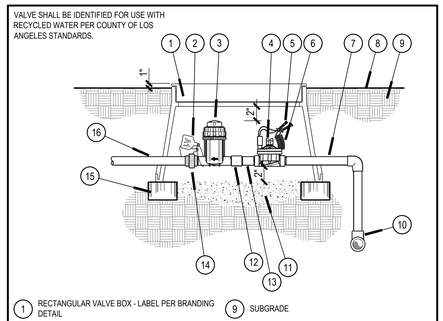


1. BRASS GATE VALVE WITH CROSS TOP
2. 6 INCH DIAMETER WHITE CLASS 200 PVC ACCESS SLEEVE
3. SCHEDULE 80 PVC T.O.E. NIPPLE, MINIMUM LENGTH 6"
4. SOLVENT WELD PVC COUPLING - REFER TO LEGEND FOR TYPE
5. PRESSURE MAINLINE - REFER TO TRENCHING DETAIL FOR DEPTH
6. COMMON BRICK SUPPORT, TWO REQUIRED
7. 1 CUBIC FOOT 3/4" CRUSHED GRAVEL
8. PURPLE, 10" ROUND VALVE BOX WITH STAINLESS STEEL BOLT LOCKING LID, HEAT BRAND "GV"
9. FINISH GRADE
10. SUBGRADE
11. RECYCLED WATER WARNING ID TAG

1.00 - CROSS TOP GATE VALVE

NO SCALE

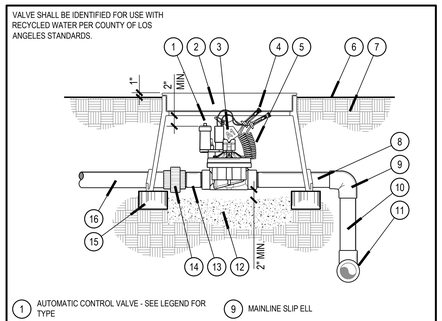
VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. RECTANGULAR VALVE BOX - LABEL PER BRANDING DETAIL
2. T CHRISTY YELLOW STATION ID TAG AND A SEPARATE RECYCLED WATER WARNING ID TAG
3. FILTER WITH PRESSURE REGULATOR REFER TO LEGEND
4. REMOTE CONTROL VALVE - REFER TO LEGEND
5. WIRE CONNECTOR KIT 3M DBY WATERPROOF
6. VALVE WIRES - PROVIDE 24" MINIMUM EXPANSION COIL FOR EACH
7. SCHEDULE 80 PVC NIPPLE THREAD ONE END - MINIMUM 6" LENGTH TO EXTEND INTO VALVE BOX
8. FINISH GRADE
9. SUBGRADE
10. PRESSURE MAINLINE TEE AND PIPING - LENGTH AS REQUIRED
11. GRAVEL 3/4" CRUSHED - 12" DEEP
12. SCHEDULE 80 T X T COUPLING
13. 1" x 3" SCHEDULE 80 NIPPLE
14. SCHEDULE 80 PVC S X T UNION
15. COMMON BRICK SUPPORTS - FOUR REQUIRED
16. PVC LATERAL LINE

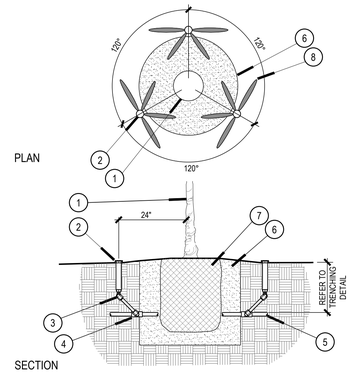
REMOTE CONTROL VALVE - DRIP

VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. AUTOMATIC CONTROL VALVE - SEE LEGEND FOR TYPE
2. RECTANGULAR VALVE BOX - LABEL PER BRANDING DETAIL
3. T CHRISTY YELLOW STATION ID TAG AND A SEPARATE RECYCLED WATER WARNING ID TAG - ATTACH TO WIRES WITH ZIP TIE
4. 3M DBY WATERPROOF WIRE CONNECTOR
5. VALVE WIRE AND COMMON - PROVIDE 24" MINIMUM EXPANSION COIL
6. FINISH GRADE
7. SUBGRADE
8. SCHEDULE 80 PVC THREAD ONE END NIPPLE - MINIMUM 6" LENGTH TO EXTEND PAST VALVE BOX
9. MAINLINE SLIP ELL
10. MAINLINE PIPING - LENGTH AS REQUIRED
11. MAINLINE TEE OR ELL
12. 3/4" CRUSHED GRAVEL - 12" DEEP
13. SCHEDULE 80 PVC NIPPLE - 3" LENGTH
14. SCHEDULE 80 PVC S X T UNION
15. BRICK SUPPORTS - FOUR REQUIRED
16. PVC LATERAL LINE

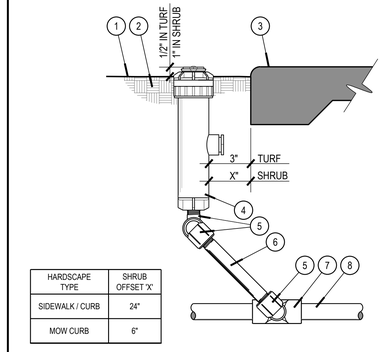
REMOTE CONTROL VALVE



1. TREE LOCATION - REFER TO PLANTING PLAN FOR LOCATION
2. SPRAY OR BUBBLER HEAD - REFER TO LEGEND FOR TYPE AND QUANTITY
3. SWING JOINT ASSEMBLY - REFER TO SPRAY HEAD POP UP DETAIL
4. SCHEDULE 40 PVC SxSxT TEE OR SxT ELBOW
5. NON PRESSURE LATERAL LINE - REFER TO PLAN FOR SIZE
6. SUBGRADE
7. ROOTBALL
8. SPRAY PATTERN

TREE IRRIGATION

NO SCALE

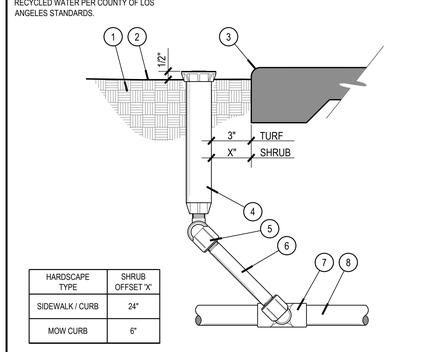


HARDSCAPE TYPE	SHRUB OFFSET 'X'
SIDEWALK / CURB	24"
MOW CURB	6"

1. FINISH GRADE
2. SUBGRADE
3. HARDSCAPE / PLANTER SEPARATION HEADER - REFER TO MATRIX FOR OFFSET DISTANCE
4. ROTOR POP UP - REFER TO LEGEND
5. SCHEDULE 40 STREET ELL - INLET SIZE
6. SCHEDULE 80 PVC NIPPLE - LENGTH AS REQUIRED
7. SCHEDULE 40 PVC SxSxT TEE OR ELBOW
8. LATERAL LINE - SIZE PER PLAN

ROTOR POP UP

HEAD SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



HARDSCAPE TYPE	SHRUB OFFSET 'X'
SIDEWALK / CURB	24"
MOW CURB	6"

1. SUBGRADE
2. FINISH GRADE
3. HARDSCAPE / PLANTER SEPARATION HEADER - REFER TO MATRIX FOR OFFSET DISTANCE
4. SPRAY HEAD POP UP - REFER TO LEGEND
5. MARLEX STREET ELL INLET SIZE
6. SCHEDULE 80 PVC NIPPLE - LENGTH AS REQUIRED
7. SCHEDULE 40 PVC SxSxT TEE OR ELL
8. LATERAL LINE - SIZE PER PLAN

POP UP SPRAY BODY

TOR010

REVISIONS

PUEBLO PARK

Torrance, California

Landscape Improvement Plans

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3031 Torrance Blvd
Torrance, CA 90503
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IRRIGATION DETAILS

WATER CONCERN, LTD.
Landscape Irrigation Consulting
29829 Santa Margarita Pkwy, Suite 200
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager:
P. Stevens

approved by:

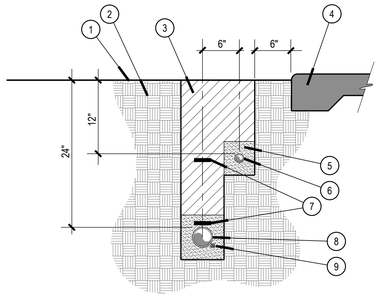
drawn by:
Water Concern

date:
04/02/14

scale:
No Scale

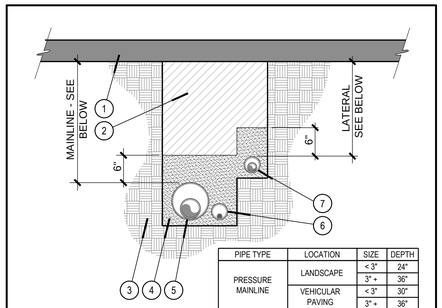
SHEET
L302 of 10

Pueblo Park - City of Torrance



1. FINISH GRADE
2. SUBGRADE
3. BACKFILL - REFER TO SPECIFICATIONS
4. HARDSCAPE OR STRUCTURE
5. DEBRIS AND ROCK FREE BACKFILL (OR SAND) MINIMUM 2" ABOVE AND BELOW PIPING.
6. LATERAL
7. RECYCLED WATER WARNING TAPE ON TOP OF PIPE AND 12" ABOVE PIPE
8. MAINLINE
9. CONTROL WIRE - ATTACH TO PIPE AT 10' INTERVALS - PROVIDE 20" EXPANSION LOOP AT CHANGE IN DIRECTIONS

TRENCHING

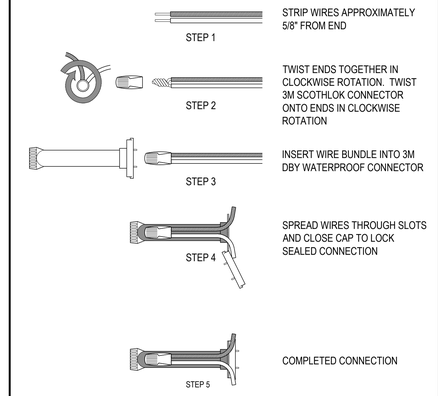


PIPE TYPE	LOCATION	SIZE	DEPTH
PRESSURE MAINLINE	LANDSCAPE	< 3"	24"
		3" +	36"
	VEHICULAR PAVING	< 3"	30"
		3" +	36"
NON PRESSURE LATERAL LINE	LANDSCAPE	< 3"	12"
		3" +	18"
	VEHICULAR PAVING	< 3"	24"
		3" +	30"

1. FINISH SURFACE IN LANDSCAPE OR VEHICULAR PAVING
2. BACKFILL - REFER TO SPECIFICATIONS
3. SUBGRADE
4. DEBRIS AND ROCK FREE BACKFILL (OR SAND) MINIMUM 2" BELOW PIPING.
5. PRESSURE MAINLINE PIPING IN SLEEVE - REFER TO SPECIFICATIONS
6. LOW VOLTAGE CONTROL WIRE SLEEVE - MINIMUM 2" - REFER TO SPECIFICATIONS
7. LATERAL LINE IN SLEEVE - REFER TO SPECIFICATIONS

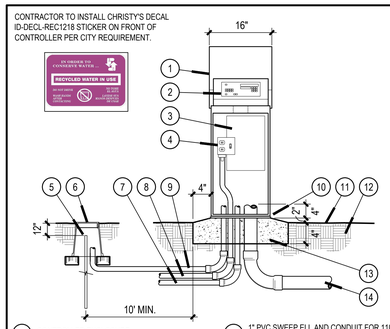
NOTES
1. ALL SLEEVES TO BE TWICE DIAMETER OF CARRIER PIPE.
2. NON-DOMESTIC WATER PIPE SLEEVES SHALL BE IDENTIFIED PER WATER DISTRICT STANDARDS
3. ALL SLEEVES SHALL EXTEND MINIMUM 12" BEYOND EDGE OF PAVING

PIPES UNDER PAVING



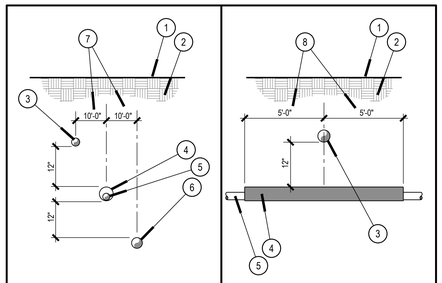
WIRE CONNECTIONS

CONTRACTOR TO INSTALL CHRISTY'S DECAL ID-DECL-REC1218 STICKER ON FRONT OF CONTROLLER PER CITY REQUIREMENT.



1. CONTROLLER ENCLOSURE
2. AUTOMATIC CONTROLLER
3. CONTROLLER SUB ASSEMBLY
4. CONTROLLER ON/OFF WITH GFI SWITCH PER LOCAL ELECTRICAL CODE
5. 5/8" X 96" COPPER GROUND ROD -INSTALL PER MANUFACTURER RECOMMENDATIONS
6. VALVE BOX - 10" ROUND WITH TWO BRICK SUPPORTS
7. 1-1/2" LONG PVC SWEEP ELL AND CONDUIT FOR FLOW SENSOR WIRE
8. 1" PVC SWEEP ELL AND CONDUIT FOR 110 VAC ELECTRICAL CONNECTION
9. 1-1/2" LONG PVC SWEEP ELL AND CONDUIT FOR GROUND WIRE
10. EPOXY WATERPROOFING ALONG BASE OF ENCLOSURE
11. FINISH GRADE
12. SUBGRADE
13. CONCRETE BASE - 6" THICK MIN - SLOPE EDGES FOR DRAINAGE
14. 3" PVC LONG SWEEP ELL AND CONDUIT FOR CONTROLLER WIRES

CONTROLLER - TOP MOUNT



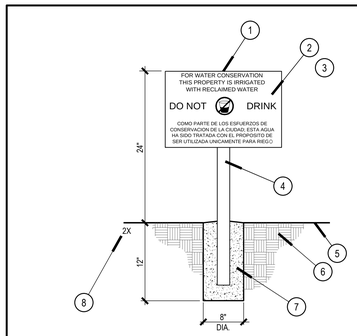
SECTION VIEW

CROSSING VIEW

CONTRACTOR TO COORDINATE CROSSING OF ALL POTABLE AND RECYCLED WATER PRESSURE MAINLINES WITH WATER DISTRICT'S FIELD INSPECTOR PRIOR TO TRENCHING

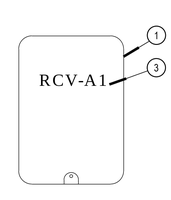
1. FINISH GRADE
2. SUBGRADE
3. DOMESTIC SERVICE LINE - CONTRACTOR TO LOCATE POSITION
4. PURPLE RECYCLED WATER IRRIGATION PRESSURE MAINLINE SLEEVE - AS NECESSARY AT CROSSINGS
5. RECYCLED WATER IRRIGATION PRESSURE MAINLINE
6. SANITARY SEWER LINE - CONTRACTOR TO LOCATE POSITION
7. MAINTAIN 10' HORIZONTAL SEPARATION
8. IRRIGATION PRESSURE MAINLINE TO BE SLEEVED 5' FROM DOMESTIC CROSSING - EACH DIRECTION

RW / DW SERVICE LINE CROSSING NO SCALE

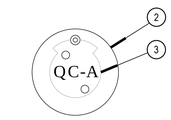


1. ATTACH SIGN TO POST WITH STAINLESS STEEL HARDWARE, TWO BOLTS, MINIMUM
2. CHRISTY #ID-SIGN-3.5 - 12" x 18" ALUMINUM X 0.08" THICK RECYCLED WATER SIGN
3. SUBMIT SAMPLE OF SIGN TO WATER DISTRICT PRIOR TO INSTALLATION FOR APPROVAL
4. 1-1/2" X 36" X 1/16" WALL SQUARE ALUMINUM POST
5. FINISH GRADE
6. SUBGRADE
7. CONCRETE FOOTING WITH SLIGHT CROWN
8. FURNISH AND INSTALL TWO SIGNS PER CONTROLLER

RECYCLED WATER SIGN NO SCALE



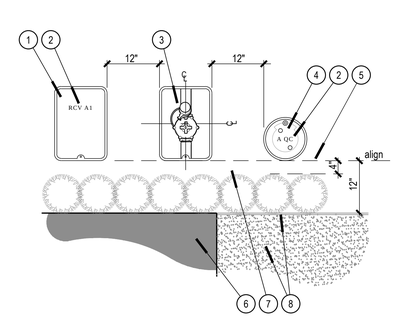
RECTANGULAR VALVE BOX		
ITEM	COLOR	BRAND
GATE VALVE	PURPLE	GV-A
REGULATOR	PURPLE	PR-A
MASTER VALVE	PURPLE	MV-A
FLOW SENSOR	PURPLE	FS-A
PULL BOX	BLACK	PB-A
CONTROL VALVE	PURPLE	RCV-A ##
GROUND ROD	BLACK	GR-A



ROUND VALVE BOX		
ITEM	COLOR	BRAND
QUICK COUPLER	PURPLE	QC-A
FLUSH VALVE	PURPLE	FV-A#
AIR RELIEF	PURPLE	AR-A

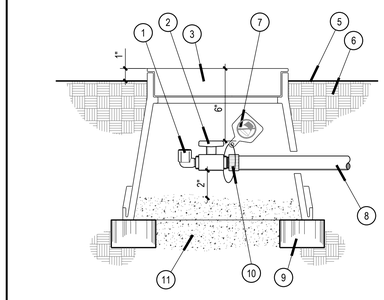
1. RECTANGULAR VALVE BOX
2. ROUND VALVE BOX
3. 1" IDENTIFICATION BRAND - REFER TO CHART

VALVE BOX BRANDING - RECYCLED WATER



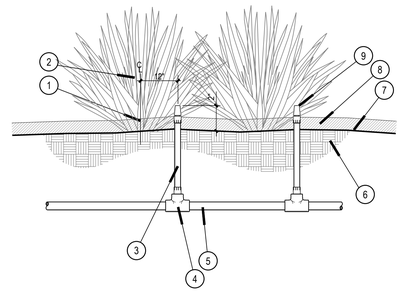
1. RECTANGULAR VALVE BOX
2. 1" IDENTIFICATION BRAND - REFER TO BRANDING DETAILS
3. CENTER VALVE WITHIN BOX
4. ROUND VALVE BOX
5. ALIGN VALVE BOXES PARALLEL TO HARDSCAPE SURFACE AND PERPENDICULAR TO EDGE
6. HARDSCAPE CONDITION
7. MAINTAIN 3" MINIMUM FROM HEDGE PLANTING. DO NOT LOCATE VALVE BOXES IN HEDGES, NEAR TREES OR IN TURF AREAS.
8. TURF PLANTER WITH EDGE CONDITION

VALVE BOX LAYOUT



1. 1/2" SCHEDULE 40 PVC STREET ELL
2. 1/2" SCHEDULE 80 TxT BALL VALVE - SPEARS CB2-1001 OR EQUAL
3. ROUND VALVE BOX PER LEGEND - BRAND LID WITH STATION NUMBER AND 'FV' I.E. 'A12 FV'
4. 1/2" SCHEDULE 40 PVC MALE ADAPTER
5. FINISH GRADE
6. SUBGRADE
7. RECYCLED WATER WARNING ID TAG
8. 3/4" SCHEDULE 40 PVC NON PRESSURE LATERAL LINE
9. SUPPORT BRICK - FOUR REQUIRED
10. 3/4" x 1/2" SCHEDULE 40 PVC MALE ADAPTER
11. 1 CUBIC FOOT 3/4" CRUSHED GRAVEL

FLUSH VALVE DETAIL NO SCALE



1. SHRUB LOCATION
2. MAINTAIN 12" CLEAR FROM PLANT PIT
3. SALCO GIH-12 12" LONG SCHEDULE 40 PVC FLEXIBLE RISER
4. SCHEDULE 40 S X S X T FITTING
5. LATERAL PIPE - SET DEPTH TO ALLOW EMITTER TO BE 2" ABOVE FINISH GRADE (BELOW MULCH)
6. SUBGRADE
7. FINISH GRADE
8. BARK MULCH LAYER
9. RAINBIRD XBT-20 - 2.0 GPH 1/2" FIPT THREADED EMITTER

SHRUB DRIP DETAIL NO SCALE

TOR010

REVISIONS

PUEBLO PARK

Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

IRRIGATION DETAILS

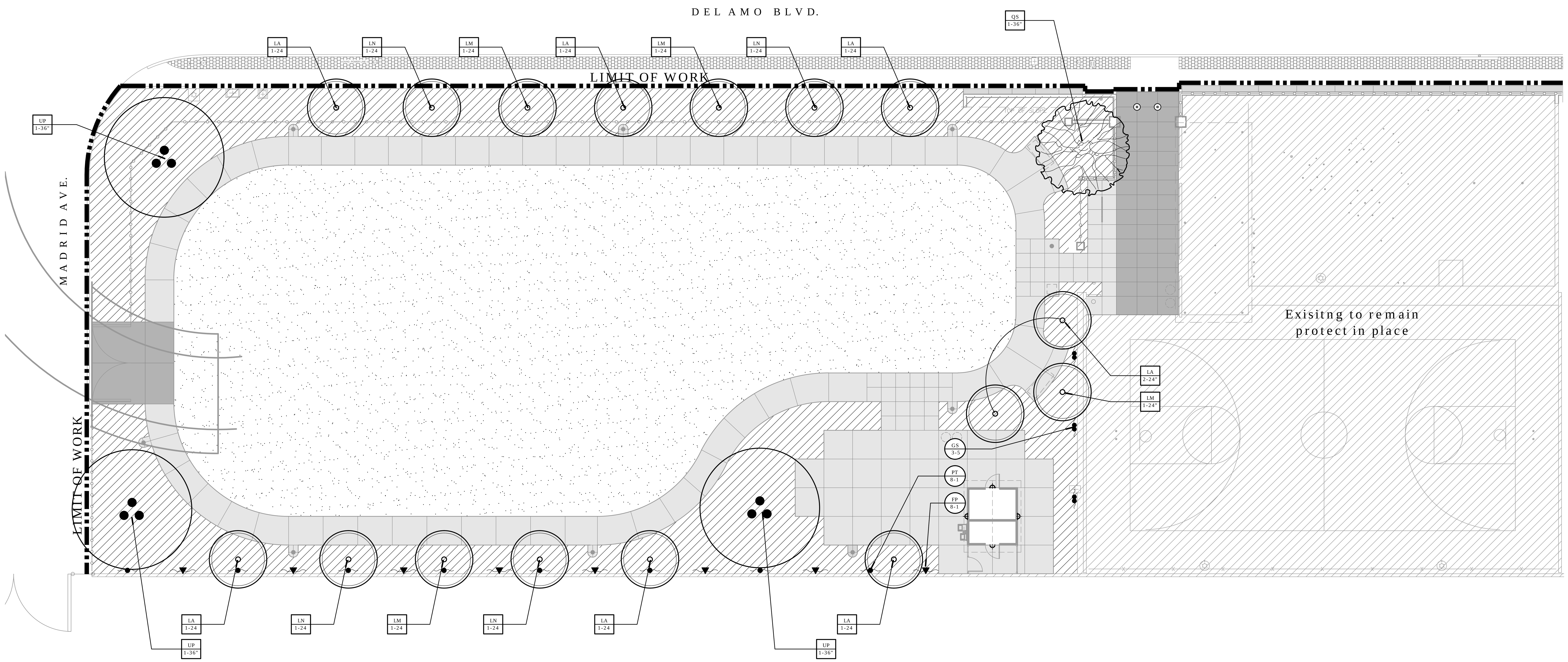
WATER CONCERN, LTD.
Landscape Irrigation Consulting
29830 Santa Margarita Pkwy, Suite 200
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager:
P. Stevens
approved by:

drawn by:
Water Concern
date:
04/02/14
scale:
No Scale

SHEET
L303 of 10

Pueblo Park - City of Torrance



GENERAL PLANTING NOTES

All boxed trees will be selected by the Landscape Architect. Contact Landscape Architect for name of wholesale nursery.

Any tree indicated on a plan should be considered diagrammatic. All local jurisdiction standards and specifications should be reviewed prior to planting.

The Contractor shall verify all plant material quality and quantities prior to installation. The Contractor shall be responsible for the continuous protection of all plant materials upon arrival to the site. All trees, shrubs, vines, and groundcovers shall be spotted under the direction of the Landscape Architect and Builder Representative.

The placement (spotting) of all plant material is to be reviewed in the field with the Landscape Architect prior to planting. Any tree or shrub that is planted without prior review may be subject to transplant if it is deemed to be in the wrong position.

The Landscape Contractor is responsible for the correct height of plant material above grade.

Adjustments to tree locations are to be made if there is a conflict with subsurface drain lines or storm drains.

All trees 24" box or larger are to be fine pruned after planting. Review in field with Landscape Architect.

Thirty (30) days after installation, all landscape areas shall be fertilized with a commercial grade fertilizer of 16-6-8 or approved equal, applied at the rate of 6 lbs. per 1000 sq. ft. Fertilizer application shall be continuous thereafter at monthly intervals.

During the last 30 days of maintenance, the Builder is responsible for obtaining as builts, controller charts and watering schedules from his Landscape Contractor. Three copies are to be submitted to the master or sub association and Maintenance Contractor.

SOIL AMENDMENTS

This note is for "BID PURPOSE ONLY". Contractor shall be responsible for obtaining an agronomic soils report and soil amendment recommendations per agronomist.

If surface soil compaction has occurred, to extent possible, all areas to be landscaped should be cross ripped or otherwise tilled to a depth of 9-12 inches.

For turf and groundcover planting, the following amendments should be uniformly broadcast and thoroughly incorporated to a 6" depth by means of rototiller or equal:

- 6 cu. yds. Nitrogen stabilized organic amendment derived from redwood, fir or cedar sawdust.
- 15 lbs. 12-12-12 commercial fertilizer.
- 10 lbs. soil sulfur

Since soil sulfur is included in the pre-plant program, care should be taken in order to insure that all amendments are thoroughly incorporated to the depth specified. The backfill mix for use around the rootball of container grown trees and shrubs should be prepared as follows:

- 6 parts by volume on-site soil
- 4 parts by volume Nitrogen stabilized organic amendment
- 1 lb. 12-12-12 per cu. yd. of mix
- 2 lbs. Iron Sulfate per cu. yd. of mix

The above materials should be thoroughly blended prior to use for backfill purposes. The Iron Sulfate should not contact cement surfaces at any time, or severe staining will occur.

TREE TAG NOTE

All trees to be selected, tagged and spotted by the Landscape Architect. Contractor to bid NurseryName prices for standardized bidding purposes. NurseryPhone#

Landscape Architect will furnish a list of tree locations to the Contractor who is awarded the bid. Refer to general notes on the title sheet for further information.

QUANTITIES

Contractor to note that the quantities on legends and plant call-outs have been provided for quick reference only. It is recommended that the Contractor not rely on the accuracy of these quantities and provide their own plant material counts at the time of preparing bid. Any discrepancy in plant quantities and sizes should be brought to the immediate attention of the Landscape Architect.

ROOT BARRIER NOTE

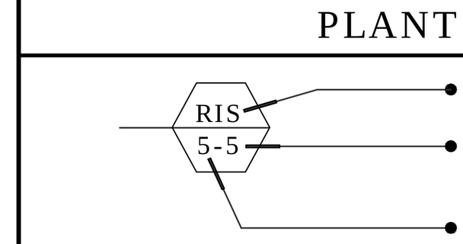
All trees planted within 5'-0" of the hardscape areas (i.E. walls, sidewalks, buildings, structures, ect.) shall be planted with Deep Root '18" Universal Guide - UB 18-2'. Barrier shall be the length of the ultimate canopy of the tree.

Root barriers
available from:
Deep Root Partners, LP
540 Washington Street
San Francisco, CA 94111
(800) 766-8835

PLANTING LEGEND

ESP.	Espaliered
GAL.	Gallon Container
G.C.	Ground Cover
HT.	Height
L.A.	Landscape Architect
L.C.	Landscape Contractor
MIN.	Minimum
M.T.	Multi-trunked
O.C.	On Center
RWD.	Redwood
S.L.A.	Selected by L.A.
SPEC.	Specimen
SP.	Spread
STD.	Standard

PLANTING KEY



ADDITIONAL PLANT MATERIAL NOTE

Contractor shall include in his bid the following additional plant material to be selected and spotted by the Landscape Architect. The Contractor shall credit the owner for any additional plant material that has not been used in the installation that is a part of this list.

X - 48" Box Trees
X - 36" Box Trees
X - 24" Box Trees
X - 15 Gallon Shrubs
X - 5 Gallon Shrubs
X - 1 Gallon Shrubs

GROUND COVER SCHEDULE

SYMBOL	DESCRIPTION	NOTES	AVAIL.
(hatch)	2" thick covering of Forest Floor Mulch in all flat (3:1 or less) planting areas. Slopes to receive 2" thick covering of mulch where specified on plan.	Contractor to send sample to Landscape Architect	R & S
(stipple)	Hydroseed - Sahara Bermuda grass (Application per square foot per manufacturer's recommendations)	Bid Alternate - Stolonized Hybrid Bermuda	----

Supplier list:
R & S - R & S Soils Products - 23842 La Rosa Dr.
Lake Forest, CA 92630 - Contact: Steve Carneal (949) 830-8882

TREE SCHEDULE

ABBR.	BOTANICAL NAME	COMMON NAME	TRUNK	SIZE	WUCOLS	QTY
UP	Ulmus parvifolia 'True Green'	Chinese Elm	Std.	36" Box	M	4
LA	Lagerstroemia hybrid 'Arapaho'	Red Crape Myrtle	Multi	24" Box	M	?
LM	Lagerstroemia hybrid 'Muskogee'	Lavendar Crape Myrtle	Multi	24" Box	M	?
LN	Lagerstroemia hybrid 'Natchez'	White Crape Myrtle	Multi	24" Box	M	?
QS	Quercus suber	Cork Oak	Std.	36" Box	L	1

NURSERY CONTACT INFO:
P.C.N. - Pacific Coast Nursery - Contact Steve Adams@ (951) 689-1777
WUCOLS NOTE:
WUCOLS, Water Use Classification of Landscape Species, is a University of California Cooperative Extension publication and is a guide to the water needs of the landscape plants.

VINE SCHEDULE

SYMBOL	ABBR.	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS	QTY
(symbol)	GS	Gelsemium sempervirens	Carolina jessamine	5 Gallon	M	3
(symbol)	PT	Parthenocissus tricuspidata	Boston Ivy	1 Gallon	M	8

NURSERY CONTACT INFO:
P.C.N. - Pacific Coast Nursery - Contact Steve Adams@ (951) 689-1777
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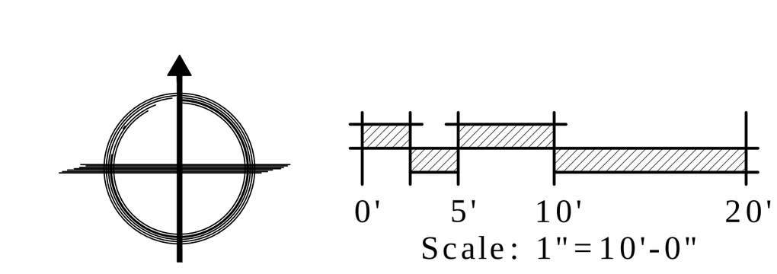

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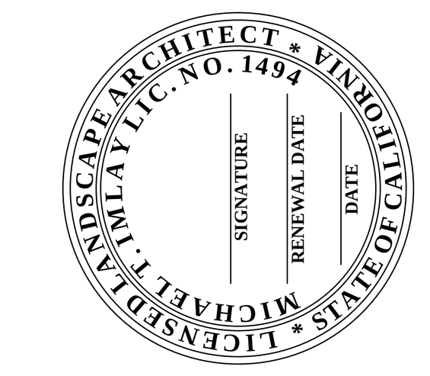


REVISIONS

PUEBLO PARK

2252 Del Amo Boulevard, Torrance, California

Landscape Improvement Plans

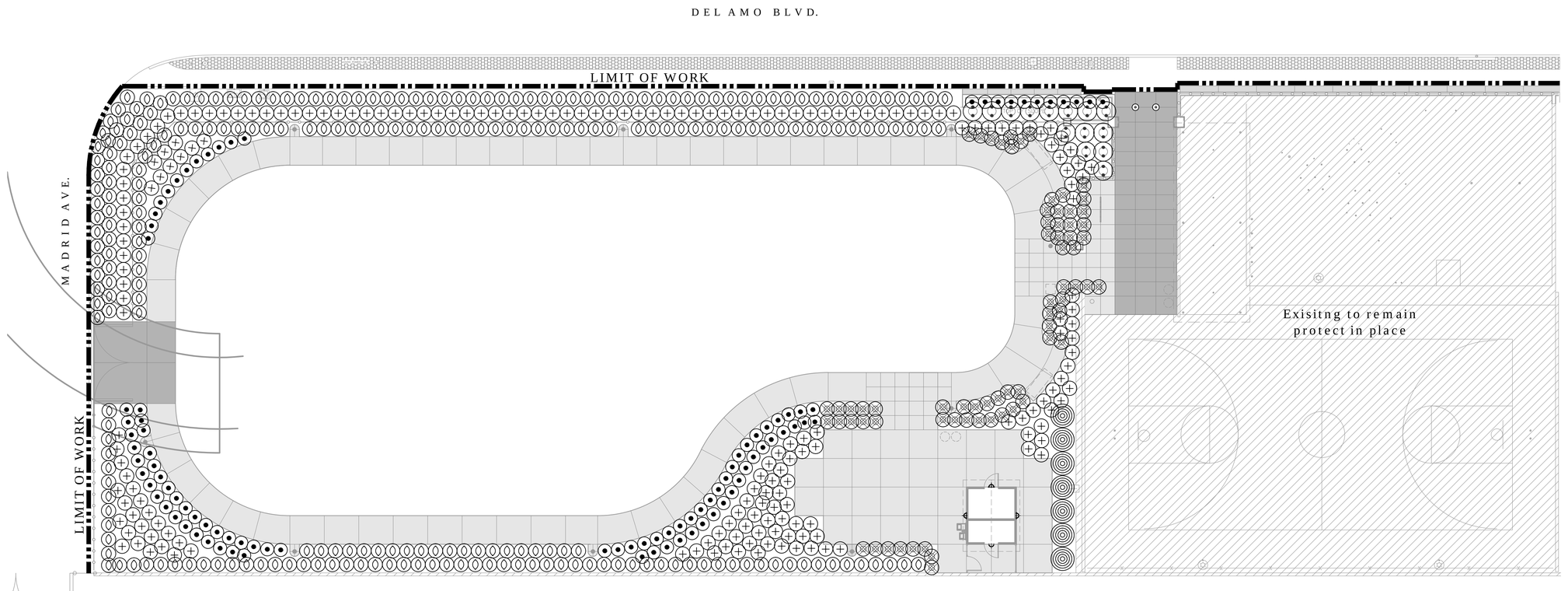
City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

TREE AND VINE LAYOUT

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: C. Hillstead
date: 04/02/14
scale: 1" = 10'-0"

SHEET L400 of 10



GENERAL PLANTING NOTES

The Contractor shall apply a Pre-emergent herbicide (Surflan TXL, Ronstar G, or equal) to all bare soil in shrub and groundcover areas.

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Any tree indicated on a plan should be considered diagrammatic. All local jurisdiction standards and specifications should be reviewed prior to planting.

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Thirty (30) days after installation, all landscape areas shall be fertilized with a commercial grade fertilizer of 16-6-8 or approved equal, applied at the rate of 6 lbs. per sq. ft. Fertilizer application shall be continuous thereafter at monthly intervals.

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L.C.	Landscape Contractor
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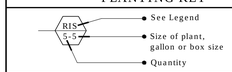

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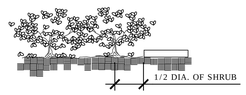
- X - 36" Box Trees
- X - 24" Box Trees
- X - 15 Gallon Shrubs
- X - 5 Gallon Shrubs
- X - 1 Gallon Shrubs

SHRUB SPACING & SETBACK NOTE



SPACING & SETBACK OF SHRUBS

All shrubs to be planted in planting areas a minimum of 1/2 their dia. Size from the edge of hardscape.

All Lonicera japonica 'Halliana' to be planted 1'-6" away from adjacent shrub massing.

SHRUB SCHEDULE

SYMB.	ABR.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WUCOLS	QTY
	DTV	Dianella tasmanica 'Variegata'	Varigated Flax Lily	1 Gal	30" O.C.	M	
	DB	Dietes iridioides 'Lemon Drops'	Fortnight Lily	5 Gal	36" O.C.	M	
	LM	Liriope muscari	Lily Turf	1 Gal	30" O.C.	M	
	PMM	Phormium 'Maori Queen'	New Zealand Flax	15 Gal	48" O.C.	M	
	RIC	Rhaphiolepis indica 'Clara	Indian Hawthorn	15 Gal	36" O.C.	M	
	RU	Rhaphiolepis umbellata (not 'minor')	Yedda Hawthorn	5 Gal	5' O.C.	M	

NURSERY CONTACT INFO:
P.C.N. - Pacific Coast Nursery - Contact Steve Adams@ (951) 689-1777
WUCOLS NOTE:
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0' 5' 10' 20'
Scale: 1"=10'-0"

TOR010

REVISIONS

PUEBLO PARK

2252 Del Amo Boulevard, Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

SHRUB LAYOUT

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager:
P. Stevens
approved by:
M. Imlay
drawn by:
P. Stevens
date:
04/02/14
scale:
1" = 10'-0"

SHEET
L401 of 10

Pueblo Park - City of Torrance

CITY OF TORRANCE

GRADING PLAN NOTES

1. Grading operations shall be conducted in accordance with the code of the City of Torrance and all revisions thereto.
2. A Pre-Job meeting with the Grading Inspector, (310) 618-5915, is required prior to the start of grading operations. Subsequent inspections shall be requested in accordance with the Inspector's instructions of the first inspection.
3. Estimated earthwork yardage including recompaction of sumps or existing loose fill:

Fill in Lots:	300	Cubic Yards
Maximum Depth of Fill	0.5	Feet
Cut in Lots:	300	Cubic Yards
Maximum Depth of Cut:	0.5	Feet
Overexcavation & Recompaction:		Cubic Yards

4. Existing ground upon which fill or base is to be placed shall be cleared of weeds, debris, topsoil, and all other deleterious materials; no fill shall be placed until preparation of the existing ground has been approved by the Soils Engineer of record and by the Inspector.
5. Protective measures shall be taken by the contractor and the owner to protect adjacent property, public and utilities during grading operations. The contractor assumes all liability for the underground utility pipes, conduits, or structures, whether shown or not on the plan
6. Water content shall be controlled as determined by the Soils Engineer and the Inspector.
7. Permission shall be secured from the Engineering Department if the trucks are loaded in the street.
8. Unsuitable material shall be disposed of off-site. The location of dumping excess soil shall be approved by the Grading Inspector prior to starting excavation.
9. If a grading job extends over a period of time exceeding six months, the Department may require planting of those portions of the job where all other grading requirements have been met in order to prevent dust and erosion.
10. Loose material shall not exceed 3" in depth on a filled slope.
11. All slopes so designated shall be planted with an approved perennial for erosion control. Planting shall be sprinklered and maintained until planting has reached mature growth.
12. All loose on site fill shall be removed and compacted.
13. All work shall be accomplished in accordance with recommendations set forth in the soils report by dated _____ and the Geological Report by _____
14. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D1557.
15. Sufficient tests of the fill soils shall be made to determine the relative compaction of the fill in accordance with the following minimum guidelines:
    A. One test for each two foot vertical lift.
    B. One test for each 500 cubic yards of material placed.
    C. One test at the location of the final fill slope for each building site (Lot) In each four foot vertical lift of portion thereof.
    D. One test in the vicinity of each building pad for each four foot vertical lift or portion thereof.
16. Import Soils should consist of clean, compactable materials possessing expansion characteristics similar to or better than the upper on-site Soils. Import soils should be free of trash, debris or other objectionable materials. Contractor shall notify the Project Geotechnical Engineer not less than 72 hours in advance of the location of any soils proposed for Import. Each proposed Import source shall be sampled, tested, and approved prior to delivery of soils for use on the site.
17. All fill under the building foundation must be certified by the Soils Engineer as to proper bearing value design and its compliance with the preliminary soils report on note 13.
18. All subgrade under areas to be paved shall be certified by the Soils Engineer in compliance with Section 81.2.34(g) of the Torrance Municipal Code.
19. The engineering Geologist, Soils Engineer and Civil Engineer, in compliance with Section 81.2.37(g) of the Torrance Municipal Code, shall provide the Department with a grading certification upon completion of the job.
20. An as-graded plan prepared by the Civil Engineer of record shall be submitted with the required grading certifications to the Department upon job completion.
21. Approval of this plan is for grading and paving on site only and does not constitute approval of any building, wall or other structure shown on site nor any off-site improvements shown.
22. No fill shall be placed during unfavorable weather conditions. The Soils Engineer and Grading Inspector shall verify moisture content and density prior to placement of additional fill after heavy rains.
23. All construction in public right of way shall be under separate permit and approved by the Engineering Department.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

1. Owner shall keep the construction area sufficiently dampened to control dust caused by grading and construction. Owner shall, at all times, provide reasonable control of dust caused by wind.
2. The export or import material in each truckload shall be kept low enough to prevent spillage and shall be sufficiently wet down to prevent dust.
3. A staging area shall be designated where each truck is prepared for road travel and all loose material removed. Any substance to drop from the body, tires, or wheels of any vehicle upon the public right of way shall be removed immediately and permanently.
4. Erosion control measures shall be In place from November 15 through April 15.

Rev. 8/9/01

CITY OF TORRANCE
COMMUNITY DEVELOPMENT DEPARTMENT

BEST MANAGEMENT PRACTICES FOR ALL FOR CONSTRUCTION ACTIVITIES*

Project Address: 2252 DEL AMO BOULEVARD **Case No.** GRD 13-00061

The Following are Minimum Water Quality Protection Requirements for All Development Construction Projects:

- Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheetflow, swales, area drains, natural drainage courses or wind.
- Stockpiles of earth and other construction related materials must be protected from being transported from the site by the forces of wind or water.
- Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.
- Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the project site.
- Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste.
- Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
- Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other means.
- Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.
- Other: _____

As the project owner or authorized agent of the owner, I have read and understand the requirements listed above, necessary to control storm water pollution from sediments, erosion, and construction materials, and I certify that I will comply with these requirements.

Print Name _____
(Owner or authorized agent of the owner)

Signature _____ Date _____
(Owner or authorized agent of the owner)

*The above Best Management Practices are detailed in the California Storm Water Best Management Practices Handbook, January 2003. www.cabmphandbooks.com

ENGINEER'S NOTES:

1. Contractors shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours. Contractor shall defend, indemnify and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project except for liability arising from the sole negligence of the owner or the engineer.
2. The existence and location of any underground utility or structures shown on these plans are obtained by a search of the available records. To the best of our knowledge, there are no existing utilities except for as shown on this map. The contractor is required to take precautionary measures to protect the utility lines shown and any other lines not of record or not shown on this drawing.
3. The contractor is required to familiarize himself with the plans, the soils and/or geologic reports, and the site prior to commencing work.
4. Specifications shall have precedence over drawings.
5. The contractor shall notify Project Civil Engineer of any discrepancies in the plans before proceeding with construction.
6. The soils & geological report prepared by _____ and any subsequent reports shall be considered a part of these plans and all recommendations thereof shall be complied with.
7. Retaining walls shown on these plans (if any) are to be constructed by separate permit.
8. The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of thes plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.
9. Drainage is not permitted to sheet over any manufactured slope except in approved devices. Concentrated drainage is not permitted to discharge onto any graded slope. Berms, interceptor drains, swales or other devices shall be provided at the top of cut or fill slopes to prevent surface waters from overflowing onto and damaging the face of a slope. Berms used for slope protection shall not be less than 12 inches above the level of the pad and shall slope back at least 4 feet from top of slope.

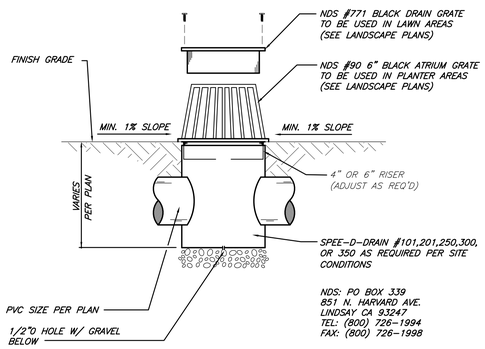
PRIVATE/UTILITY EASEMENT
Any proposed work within a Private/Utility Easement or Access Easement requires permission letters and/or covenants from easement holder. Permission from the easement holder may not be required if it can be shown the proposed construction work is consistant and in conformance with the intended easement use. Copies of recorded easements shall be submitted for review. Grading plans must show bearings, distances, (linear and curve data) for the entire easements. The following note shall be added to the grading plan: "As Civil Engineer/Land Surveyor of this project, I have identified the location of all easements which are depicted on these palns. I have reviewed the proposed easement documents and verified the proposed construction does not conflict or interfere with the intended easement use."

REGISTERED PROFESSIONAL ENGINEER IMAD ABOUJAOUDAH No. 51299 Exp. 6-30-14 CIVIL STATE OF CALIFORNIA

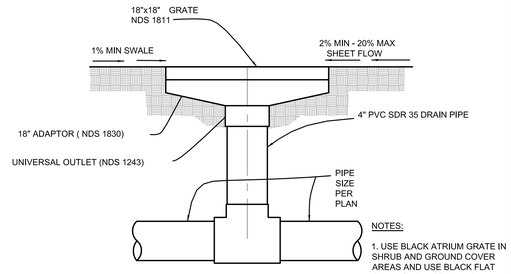
_____ _____
Civil Engineer/Land Surveyor (Stamp and Signature) Date

FUGITIVE DUST CONTROL NOTES:

1. No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:
    A. The dust remains visible in the atmosphere beyond the property line of the submission source; or
    B. The dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the rule 403 implementation handbook), If the dust emission is the result of movement of motorized vehicle.
2. No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of the rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.
3. No person shall cause or allow PM10 levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM10 monitoring. If sampling is conducted, samplers should be:
    A. Operated, maintained, and calibrated in accordance with 40 code of federal regulations (CFR), part 50, appendix J, orappropriate U.S. EPA-published documents for U.S. EPA-approved eqivalent method(s) for PM10.
    B. Reasonab ly placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.
4. No person should allow tract-out to exceed 25 feet or more in cumulative length from the point of origin from AC active operation, notwithstanding the preceding, all tract-out from an active operation shall be removed at the conclusion of each workday or evening shift.
5. After January 1, 2005, no person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (D)(5)(E) at each vehicleegress from the site to a paved public road.
    A. Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least 30 feet wide and at least 50 feet long.
    B. Pave the surface extending at least 100 feet and at least 20 feet wide.
    C. Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipes, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicle exit the site.
    D. Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
    E. Anyother control measures approved by the executive officers and the U.S. EPA as equivalent to the actions specified in subparagraphs (D)(5)(A) through (D)(5)(D).

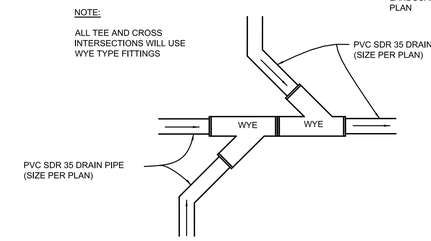


AREA DRAIN A
NO SCALE



NOTES:
1. USE BLACK ATRIUM GRATE IN SHRUB AND GROUND COVER AREAS AND USE BLACK FLAT GRATE IN GRASS AREAS
2. USE NDS PRODUCTS OR APPROVED SIMILAR PER LANDSCAPE ARCHITECTURAL PLAN

NOTE:
ALL TEE AND CROSS INTERSECTIONS WILL USE WYE TYPE FITTINGS



AREA DRAIN DETAILS B
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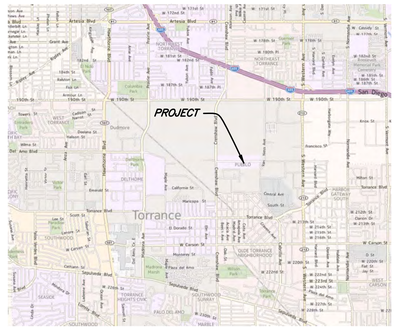
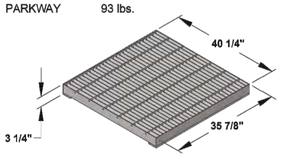
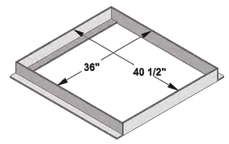


VICINITY MAP
NO SCALE

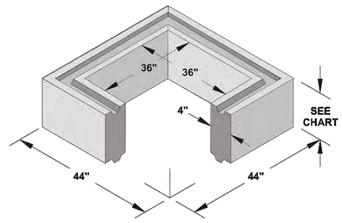
3636 STEEL GRATES - 1 Pc.
PARKWAY 93 lbs.



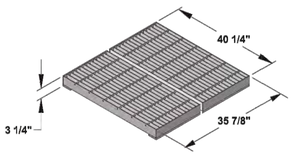
3636 FRAME ONLY



3636 EXTENSION (*NO FRAME*)

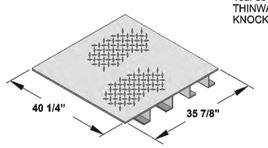


3636 STEEL GRATES - 2 Pc.
TRAFFIC 341 lbs.



3636 BOTTOM SECTION (*NO FRAME*)

3636 STEEL COVER - 1 Pc.
PARKWAY 152 lbs.
TRAFFIC 190 lbs.



4ea. 30" dia. THINWALL KNOCK-OUTS

NOTES:
1. GRATES AND COVERS AVAILABLE PAINTED BLACK OR GALVANIZED
2. "ADA" OR "HEEL-PROOF" GRATES ARE NOT AVAILABLE FOR THIS SERIES
3. BOLT DOWN GRATES AND COVERS ARE AVAILABLE

EXTENSION SECTION	HT.	LBS	KNOCK-OUTS
3636 E6	6"	525	NONE
3636 E12	12"	1050	NONE

BOTTOM SECTION	HT.	LBS	KNOCK-OUTS
3636 B36	36"	2,230	(4) 30" DIA.

36" x 36" CATCH BASIN

ORIG. DWG. DATE 11-23-99 | REV. DWG. DATE 02-18-00

BROOKS PRODUCTS
3636 CB

CATCH BASIN DETAIL C
NO SCALE

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY AND ALL CONDUITS, UTILITY PIPES, AND STRUCTURES SHOWN ON THIS SET OF PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS AT THE TIME OF DESIGN. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT AT THE TIME OF DESIGN EXCEPT AS SHOWN ON THIS SET OF PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY AND ALL UTILITY LINES SHOWN ON THIS SET OF PLANS. THE CONTRACTOR FURTHER ASSUMES ANY AND ALL LIABILITY AND RESPONSIBILITY FOR THE CONDUITS, UTILITY PIPES, AND STRUCTURES SHOWN ON THIS SET OF DRAWINGS.

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS STIPULATION INCLUDES THE SAFETY OF ANY AND ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL FURTHER DEFEND, INDEMNIFY, AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, WITH THE EXCEPTION OF LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

_____ RCE _____ DATE

UNDERGROUND SERVICE ALERT
CALL BEFORE YOU DIG
call: TOLL FREE
811
or
1-800-422-4133
TWO WORKING DAYS BEFORE YOU DIG

885 Patriot Drive, Unit C
Moorpark, California 93021
Phone: 805-522-2622
Fax: 805-426-8016
email: CDD@civildesignanddrafting.com

Civil Design & Drafting inc.

REVISION BLOCK

REV#	APPR	DATE	REVISION DESCRIPTION	ENGINEER	DATE

REGISTERED PROFESSIONAL ENGINEER IMAD ABOUJAOUDAH No. 51299 Exp. 6-30-14 CIVIL STATE OF CALIFORNIA

CIVIL ENGINEER:
PREPARED BY OR UNDER THE DIRECTION OF:
IMAD ABOUJAOUDAH
PE No.: 51299
DATE Exp: 06/30/2014

McMASTER PARK - CITY OF TORRANCE

GRADING & DRAINAGE PLAN
FOR
PUEBLO PARK
2252 DEL AMO BOULEVARS, TORRANCE, CALIFORNIA

SCALE: AS NOTED | DATE: 4/02/2014

SHEET:
C-1
OF 4 SHEETS

7-05

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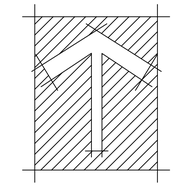

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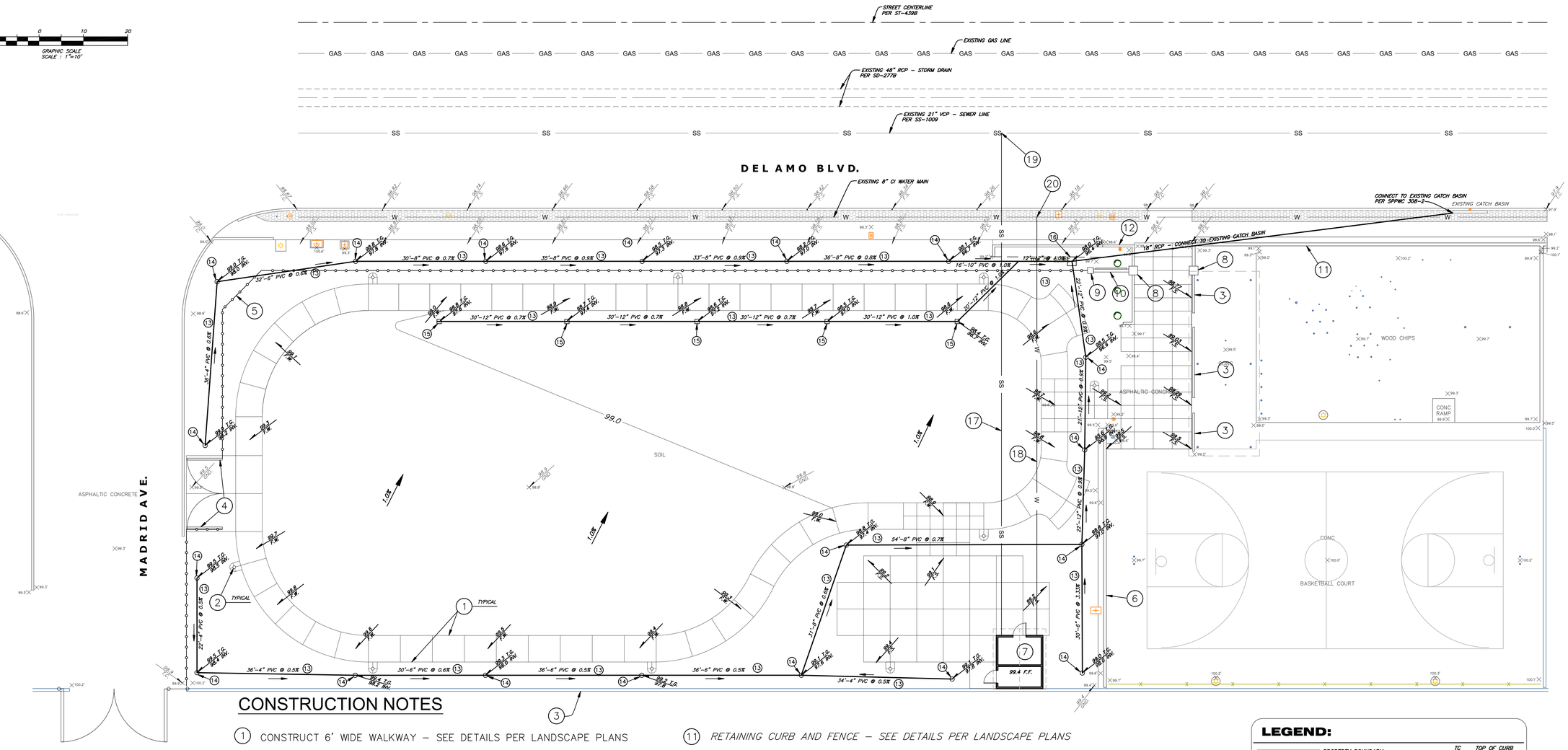
GRAPHIC SCALE
SCALE : 1"=10'



CONSTRUCTION NOTES

1. CONSTRUCT 6' WIDE WALKWAY – SEE DETAILS PER LANDSCAPE PLANS
2. CONSTRUCT LIGHT POLE – SEE DETAILS PER LANDSCAPE PLANS ✳
3. EXISTING WALL – PROTECT IN PLACE – SEE LANDSCAPE PLANS
4. *VEHICULAR ACCESS GATE – SEE DETAILS PER LANDSCAPE PLANS* ✳
5. CONSTRUCT FENCE – SEE DETAILS PER LANDSCAPE PLANS
6. *EXISTING WALL/FENCE – PROTECT IN PLACE – SEE LANDSCAPE PLANS*
7. *PREFABRICATED RESTROOM – SEE DETAILS PER LANDSCAPE PLANS* ✳
8. *ENTRY PILASTER – SEE DETAILS PER LANDSCAPE PLANS* ✳
9. *PILASTER – SEE DETAILS PER LANDSCAPE PLANS* ✳
10. *SIGNAGE WALL – SEE DETAILS PER LANDSCAPE PLANS* ✳
11. *RETAINING CURB AND FENCE – SEE DETAILS PER LANDSCAPE PLANS*
12. *RETAINING CURB – SEE DETAILS PER LANDSCAPE PLANS*
13. *INSTALL PVC PIPE – SDR 35, LENGTH AND SIZE AS SHOWN PER PLAN*
14. *INSTALL AREA DRAIN PER DETAIL A ON SHEET C-1*
15. *INSTALL AREA DRAIN PER DETAIL B ON SHEET C-1*
16. *INSTALL CATCH BASIN PER DETAIL C ON SHEET C-1*
17. *INSTALL 4" SEWER LATERAL PER CITY OF TORRANCE STD. PLAN T-200 SERIES* ✳
18. *INSTALL 2" POTABLE WATER LINE PER CITY OF TORRANCE STD. PLAN T-700 SERIES* ✳
19. *CONNECT 4" SEWER LATERAL TO EXISTING VCP PER CITY STD PLAN T-203* ✳
20. *CONNECT 2" POTABLE WATER SERVICE LINE TO EXISTING 8" LINE PER STD PLAN T-702* ✳

NOTE:

✳ SEPARATE PERMIT REQUIRED

LEGEND:

	PROPERTY BOUNDARY	TC	TOP OF CURB
	DAY LIGHT LINE (GRADING LIMIT)	FL	FLOWLINE
W	EXISTING WATER LINE	FS	FINISH SURFACE
W	PROPOSED WATER LINE	FG	FINISH GRADE
SS	EXISTING SEWER LINE	BW	BACK OF WALK
SS	PROPOSED SEWER LINE	GR	EX. GROUND
RW	EXISTING RECLAIMED WATER LINE	R/W	RIGHT OF WAY
	EXISTING STORM DRAIN LINE	INV.	INVERT
		TG.	TOP OF GRATE
99	PROPOSED CONTOUR LINES	HP	HIGH POINT
	STORMDRAIN LINE (1% MIN. GRADE)	EX.	EXISTING
65.50 F.S.	PROPOSED GRADE ELEVATIONS	R/W	RIGHT OF WAY
65.50 F.S.	EXISTING GRADE ELEVATIONS	R/W	RIGHT OF WAY
	DRAINAGE SWALE OR DIRECTION OF FLOW		
	STORMDRAIN/ AREA DRAIN INLETS		

885 Patriot Drive, Unit C
Moorpark, California 93021
Phone: 805-522-3922
Fax: 805-426-8016
email: CDD@civildesignanddrafting.com
Design & Drafting inc.

REVISION BLOCK

REV#	APPR	DATE	REVISION DESCRIPTION	ENGINEER	DATE

REGISTERED PROFESSIONAL ENGINEER ★ IMAD ABOULWAFAH ★ No. 51299 ★ Exp. 6-30-14 ★ STATE OF CALIFORNIA

CIVIL ENGINEER:
PREPARED BY OR UNDER THE DIRECTION OF:
IMAD ABOULWAFAH
P.E. No.: 51299
DATE Exp: 06/30/2014

McMASTER PARK - CITY OF TORRANCE

GRADING & DRAINAGE PLAN
FOR
PUEBLO PARK
2252 DEL AMO BOULEVARS, TORRANCE, CALIFORNIA

SCALE: AS NOTED | DATE: 4/02/2014

SHEET:
C-2
OF 4 SHEETS

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SANITARY SEWER GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION AND SUPPLEMENTS THERETO, AS WRITTEN AND PROMULGATED BY PUBLIC WORKS STANDARDS, INC., HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS, THE TORRANCE STANDARDS, AND TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLAN. THE CONTRACTOR SHALL BEAR THE ENTIRE COST OF REPAIRING OR REPLACING ANY OF SAID STRUCTURES DAMAGED BY HIM/HER DURING PROSECUTION OF THE WORK. ALL REPAIRS AND REPLACEMENTS SHALL BE DONE IN THE PRESENCE OF THE INSPECTOR. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.

3. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE FACILITIES WITHIN THE AREA OF CONSTRUCTION AT LEAST 2 WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY BEFORE COMMENCING WORK. TRAFFIC CONTROL WITHIN PUBLIC STREET RIGHTS OF WAY SHALL BE IN CONFORMANCE WITH THE "WATCH MANUAL" AND "CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD CALIFORNIA SUPPLEMENT MANUAL)" LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.

5. OVERHEAD UTILITY LINE CAUTION: REVIEW APPROVED CONSTRUCTION PLAN. IF CONSTRUCTION REQUIRES WORKERS AND/OR EQUIPMENT TO BE WITHIN 6 FEET OR CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC/UTILITY LINES, CALL SOUTHERN CALIFORNIA EDISON CO. AT 310-783-8336.

6. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1, 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.

7. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HRS PRIOR TO COMMENCEMENT OF WORK.

8. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.

9. UNLESS OTHERWISE SHOWN, ALL TRAFFIC SIGNS SHALL BE RELOCATED OR REMOVED BY THE CONTRACTOR.

10. BEFORE BREAKING INTO OR CONSTRUCTION ON A COUNTY SANITATION DISTRICT SEWER AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, COUNTY SANITATION DISTRICT INSPECTOR SHALL BE NOTIFIED BY PHONE AT 310-638-1161 IN ORDER THAT REQUIRED INSPECTION MAY BE MADE.

11. EXISTING DOWNSTREAM MANHOLES SHALL BE BULKHEADED WITH BRICK AND MORTAR OR PLUGS APPROVED BY THE INSPECTOR AT NEW INLET DURING CONSTRUCTION OF NEW UPSTREAM LINES. BRICK AND MORTAR OR PLUG SHALL BE REMOVED IN THE PRESENCE OF THE INSPECTOR(S) DURING CLEANING OF THE FIRST UPSTREAM SECTION OF THE NEW SYSTEM.

12. NO CONNECTION FOR THE DISPOSAL OF INDUSTRIAL WASTES SHALL BE MADE TO SEWERS SHOWN ON THESE DRAWINGS UNTIL A PERMIT FOR INDUSTRIAL WASTE WATER DISCHARGE HAS BEEN ISSUED BY THE COUNTY SANITATION DISTRICTS FOR SAID CONNECTION.

13. TRENCHES CUT INTO AN EXISTING ROADWAY WITHIN THE PUBLIC RIGHT OF WAY SHALL BE BACKFILLED AND PAVED AS PER TORRANCE STANDARD T116.

CITY OF TORRANCE

DATE ISSUED	SANITARY SEWER GENERAL NOTES	STANDARD NO.
19 FEB 2008	ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	T200
		SHEET 1 OF 2

TT\T200

SANITARY SEWER GENERAL NOTES (CON'T)

14. TRENCH RESURFACING SHALL BE OF THE SAME TYPE AS THE EXISTING PAVEMENT, EXCEPT IF EXISTING PAVEMENT IS A.C. OVER P.C.C., RESURFACING MAY BE FULL-DEPTH A.C.

15. MANHOLE COVER SHALL BE CAST WITH THE WORDS "TORRANCE SEWER" FOR CITY MAINTAINED LINES AND "PRIVATE SEWER" FOR PRIVATELY MAINTAINED LINES.

16. ALL SEWER LINES CONSTRUCTED TO PUBLIC STANDARDS SHALL BE VITRIFIED CLAY PIPE (VCP). DUCTILE IRON PIPE MAY BE USED SUBJECT TO PRIOR WRITTEN APPROVAL FROM THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR. ALL HOUSE CONNECTION LATERALS SHALL BE MINIMUM 6 INCH DIAMETER.

17. CONTRACTOR SHALL SET ALL MANHOLE FRAMES AND COVERS TO FINISHED GRADE.

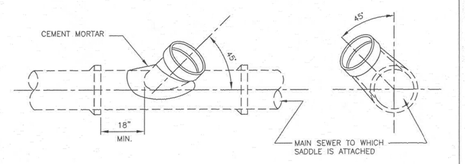
18. CONCRETE ENCASEMENT SHALL BE REQUIRED FOR SEWER MAIN LINE AND HOUSE LATERALS WITH LESS THAN 3 FEET OF COVER.

19. THE CONTRACTOR SHALL MAKE AVAILABLE FOR THE INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED AS COMPLETE UNTIL AS-BUILT DRAWINGS ARE SUBMITTED TO AND ACCEPTED BY THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR.

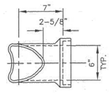
CITY OF TORRANCE

DATE ISSUED	SANITARY SEWER GENERAL NOTES	STANDARD NO.
19 FEB 2008	ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	T200
		SHEET 2 OF 2

TT\T200



SIDE VIEW END VIEW



SADDLE PLAN

SHOWING CONTACT OPENING

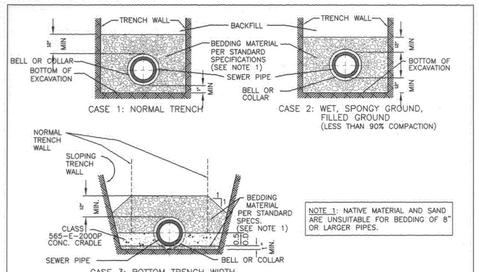
NOTES:

1. OPENING IN MAIN SEWER SHALL BE CUT TO EXACTLY FIT THE SADDLE AND THE SADDLE SHALL BE CAREFULLY ALIGNED, FITTED & ENCASED IN CEMENT MORTAR AS SHOWN.
2. SADDLE INSTALLATION SHALL BE PERFORMED IN THE PRESENCE OF AN INSPECTOR.
3. INSTALLATION SHALL BE CARRIED OUT IN SUCH A MANNER AS TO PREVENT THE INTRODUCTION OF DIRT, BROKEN PIPE, OR OTHER FOREIGN MATTER INTO THE SEWER PIPE.
4. PIPE TO BE SADDLED SHALL BE A MINIMUM OF ONE SIZE LARGER THAN SIZE OF CONNECTING LATERAL BUT IN NO CASE SHALL THE SIZE OF THE CONNECTING LATERAL BE LARGER THAN 8".

CITY OF TORRANCE

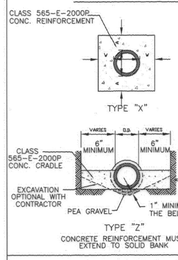
DATE ISSUED	SADDLE CONNECTION	STANDARD NO.
02 JUL 2008	ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	T203
		SHEET 1 OF 1

TT\T233



NOTE 1: NATIVE MATERIAL AND SAND ARE UNSUITABLE FOR BEDDING OF 8" OR LARGER PIPES.

CONCRETE REINFORCEMENT FOR SEWER PIPE



TABLES BELOW INDICATE DIMENSIONS OF CONCRETE FOR DIFFERENT SIZES OF PIPE

TYPE "X"

SIZE	W	A	CLAY PIPE STANDARD STRENGTH	CLAY PIPE EXTRA STRENGTH	CONCRETE PIPE STANDARD STRENGTH	CONCRETE PIPE EXTRA STRENGTH
6"	4"	4"	0.051	0.051	0.050	0.050
8"	4"	4"	0.063	0.063	0.063	0.063
10"	4"	4"	0.074	0.074	0.074	0.074
12"	4"	4"	0.086	0.086	0.086	0.091
15"	4"	4"	0.107	0.108	0.107	0.114
18"	5"	5"	0.158	0.166	0.159	0.171

SEE NOTE 2

TYPE "Z"

SIZE	A	CLAY PIPE STANDARD STRENGTH	CLAY PIPE EXTRA STRENGTH	CONCRETE PIPE STANDARD STRENGTH	CONCRETE PIPE EXTRA STRENGTH
6"	5"	0.017	0.017	0.017	0.017
8"	7"	0.024	0.024	0.024	0.024
10"	9"	0.032	0.032	0.032	0.032
12"	10"	0.037	0.037	0.037	0.037
15"	13"	0.050	0.050	0.050	0.050
18"	16"	0.063	0.064	0.063	0.064

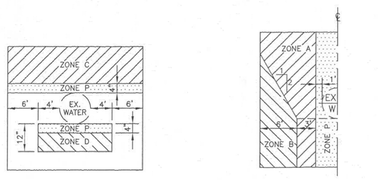
SEE NOTE 2

NOTE 2: COLUMNS INCLUDED BETWEEN ARROWS IN THE TABLES ABOVE INDICATE CUBIC YARDS OF CONCRETE PER LINEAR FT. OF PIPE.

CITY OF TORRANCE

DATE ISSUED	BEDDING FOR SEWER PIPE	STANDARD NO.
23 SEP 2009	ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	T204
		SHEET 1 OF 1

TT\T204



BASIC SEPARATION STANDARDS

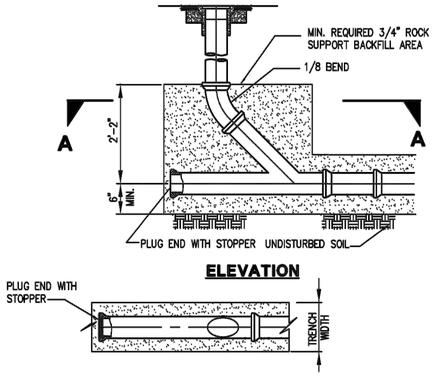
1. PARALLEL CONSTRUCTION: THERE SHALL BE AT LEAST 10 FEET HORIZONTAL CLEARANCE BETWEEN PRESSURE DOMESTIC WATER MAINS AND SEWER LINES.
2. PERPENDICULAR CONSTRUCTION (CROSSING): PRESSURE WATER MAINS SHALL BE AT LEAST ONE FOOT ABOVE SANITARY SEWER LINES WHERE THESE LINES MUST CROSS.
3. SPECIAL PROVISIONS: ALTERNATE CONSTRUCTION CRITERIA WHERE THE BASIC SEPARATION STANDARDS CANNOT BE ATTAINED ARE SHOWN BELOW:

ZONE	SEWER CONSTRUCTION (EXISTING WATER)
B	1) EXTRA STRENGTH V.C.P. WITH COMPRESSION JOINTS. 2) APPROVED ALTERNATES.
C/D	1) A CONTINUOUS SECTION OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING. 2) APPROVED ALTERNATES.
A	NO CONSTRUCTION WITHOUT APPROVAL OF TORRANCE MUNICIPAL WATER DEPARTMENT AND STATE DEPARTMENT OF HEALTH SERVICES.
P	CONSTRUCTION WITHIN THIS AREA PROHIBITED.

CITY OF TORRANCE

DATE ISSUED	SEWER AND WATER SEPARATION REQUIREMENTS	STANDARD NO.
02 JUL 2008	ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	T206
		SHEET 1 OF 1

TT\T206



NOTE:
CLEANOUT PIPE TO BE SAME SIZE AND KIND OF MATERIAL AS MAIN (4" MIN.)

(44) **SEWER CLEANOUT DETAIL**

NOT TO SCALE

" FOR REFERENCE ONLY "

885 Patriot Drive, Unit C
Moorpark, California 93021
Phone: 805-522-2622
Fax: 805-426-8016
email: CDD@civildesignanddrafting.com
Civil Design & Drafting inc.

REVISION BLOCK

REV#	APPR	DATE	REVISION DESCRIPTION	ENGINEER	DATE

REGISTERED PROFESSIONAL ENGINEER * IMAD ABOULHOSN * No. 51299 * Exp. 6-30-14 * STATE OF CALIFORNIA *

CIVIL ENGINEER:
PREPARED BY OR UNDER THE DIRECTION OF:
IMAD ABOULHOSN
PE No.: 51299
DATE
Exp: 06/30/2014

McMASTER PARK - CITY OF TORRANCE

SANITARY SEWER NOTES

FOR

PUEBLO PARK

2252 DEL AMO BOULEVARS, TORRANCE, CALIFORNIA

SCALE: AS NOTED DATE: 4/02/2014

SHEET:
C-3
OF 4 SHEETS

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GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION AND SUPPLEMENTS THERETO, AS WRITTEN AND PROMULGATED BY PUBLIC WORKS STANDARDS, INC., HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS, THE TORRANCE STANDARDS, THE AMERICAN WATER WORKS ASSOCIATION STANDARDS LATEST EDITION, AND TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLAN. THE CONTRACTOR SHALL BEAR THE ENTIRE COST OF REPAIRING OR REPLACING ANY OF SAID STRUCTURES DAMAGED BY HIM/HER DURING PROSECUTION OF THE WORK. ALL REPAIRS AND REPLACEMENTS SHALL BE DONE IN THE PRESENCE OF THE INSPECTOR. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.

3. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE FACILITIES WITHIN THE AREA OF CONSTRUCTION AT LEAST 2 WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY BEFORE COMMENCING WORK. TRAFFIC CONTROL WITHIN PUBLIC STREET RIGHTS OF WAY SHALL BE IN CONFORMANCE WITH THE CALIFORNIA MUTCD MANUAL OR CITY OF TORRANCE STANDARDS FOR TRAFFIC CONTROL, LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.

5. OVERHEAD UTILITY LINES CAUTION: REVIEW APPROVED CONSTRUCTION PLAN. IF CONSTRUCTION REQUIRES WORKERS AND/OR EQUIPMENT TO BE WITHIN 6 FEET OR CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC LINES, CALL SOUTHERN CALIFORNIA EDISON AT 310-783-9336.

6. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1, 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.

7. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HOURS PRIOR TO COMMENCEMENT OF WORK.

8. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.

9. UNLESS OTHERWISE SHOWN, ALL TRAFFIC SIGNS SHALL BE RELOCATED OR REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 AT LEAST 2 WORKING DAYS IN ADVANCE OF THE WORK.

10. THE CONTRACTOR SHALL DISINFECT WATER LINES UNDER THE DIRECTION OF THE CITY'S WATER QUALITY INSPECTOR. THE TORRANCE MUNICIPAL WATER DEPARTMENT SHALL COLLECT WATER SAMPLES FOR ANALYSIS SUBSEQUENT TO DISINFECTING OF THE PIPELINE BY THE CONTRACTOR.

11. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST TWO WORKING DAYS IN ADVANCE OF A PROPOSED WATER MAIN OR SERVICE LINE SHUT DOWN. THE CONTRACTOR SHALL NOTIFY THE CUSTOMERS EFFECTED BY THE PROPOSED SHUT DOWN AT LEAST 24 HOURS IN ADVANCE. CUSTOMER NOTIFICATION SHALL CONSIST OF A DOOR HANGER SPECIFING THE DATE(S) AND TIME(S) OF THE PROPOSED SHUT DOWN. NOTICE SHALL CONTAIN THE CONTRACTORS NAME AND TELEPHONE NUMBER. NOTICE SHALL BE APPROVED BY THE INSPECTOR PRIOR TO DISTRIBUTION.

12. OPERATION OF VALVES ON ALL PUBLIC WATER LINES AND THE FIRST NEW VALVE DOWNSTREAM OF A PUBLIC WATER MAIN SHALL BE PERFORMED BY THE TORRANCE MUNICIPAL WATER DEPARTMENT UNLESS OTHERWISE SHOWN.

13. ALL WATER LINES SHALL HAVE 42" COVER FROM PROPOSED FINISHED GRADE UNLESS OTHERWISE SHOWN ON THE PLAN.

TT\T700

CITY OF TORRANCE		
DATE ISSUED: 12 MAY 2008	WATER GENERAL NOTES ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	STANDARD NO. T700 SHEET 1 OF 2

GENERAL NOTES (CON'T)

14. FOR PARALLEL CONSTRUCTION ALL WATER LINES SHALL BE INSTALLED WITH A TWO FOOT (MIN.) CLEARANCE FROM EXISTING UTILITY LINES (GAS, TELEPHONE, CABLE, POWER...). A MINIMUM OF 12" CLEARANCE SHALL BE PROVIDED WHEN CROSSING UTILITY LINES.

15. NO PVC PIPE SHALL BE INSTALLED UPSTREAM OF THE INLET SIDE OF METERS OR DETECTOR CHECK VALVES.

16. CONTRACTOR SHALL MAKE AVAILABLE FOR THE PUBLIC WORKS INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED AS COMPLETE UNTIL AS-BUILTS ARE SUBMITTED TO AND ACCEPTED BY THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

17. TRENCHES CUT INTO AN EXISTING ROADWAY WITHIN THE PUBLIC RIGHTS OF WAY SHALL BE BACKFILLED AND PAVED AS PER CITY OF TORRANCE STANDARD T116.

18. TRENCH RESURFACING SHALL BE OF THE SAME TYPE AS THE EXISTING PAVEMENT, EXCEPT IF EXISTING PAVEMENT IS A.C. OVER P.C.C., RESURFACING MAY BE FULL-DEPTH A.C.

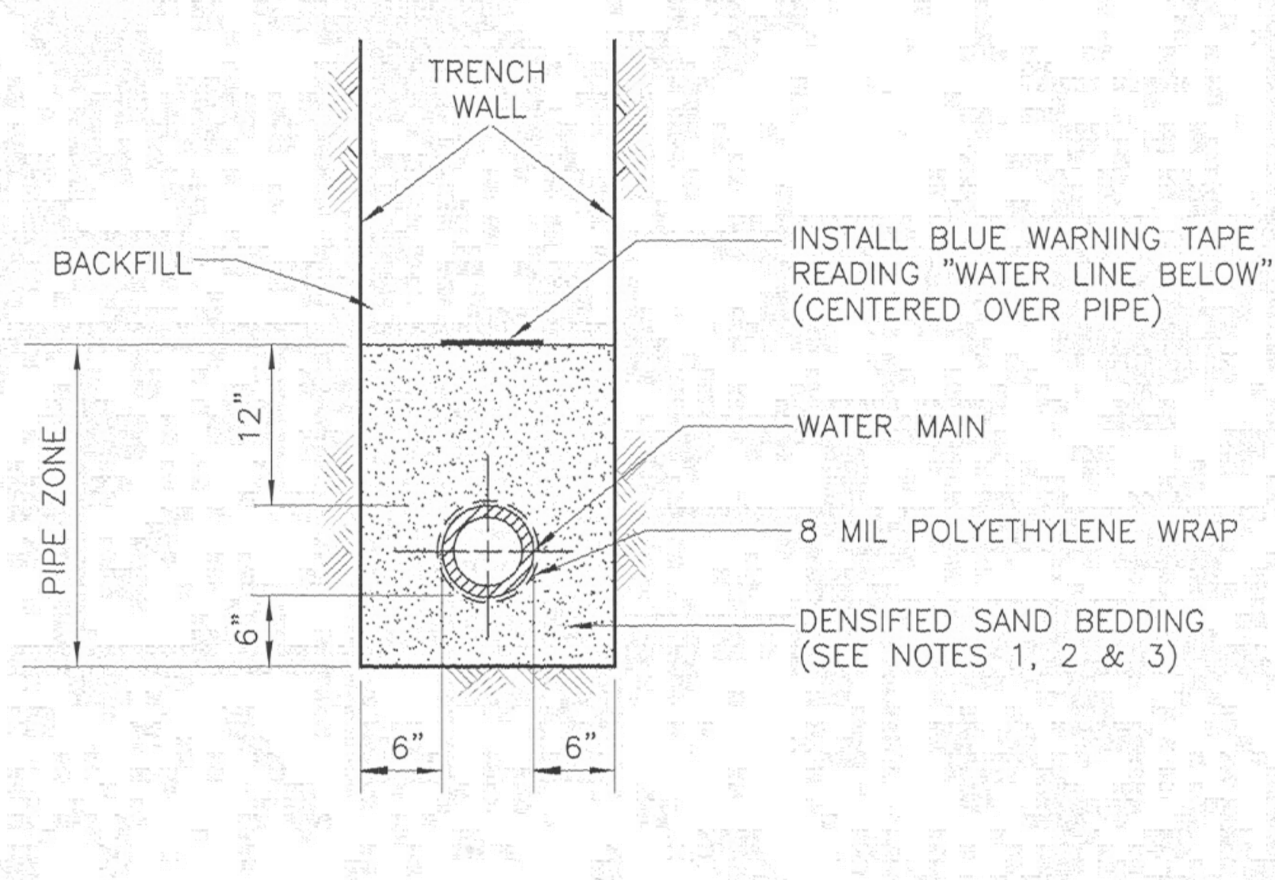
19. PIPE BEDDING SHALL CONFORM TO TORRANCE STANDARD DRAWING T701.

20. ALL FLANGE NUTS, BOLTS AND WASHERS SHALL BE 316 S.S. UNLESS OTHERWISE SHOWN.

21. ALL BURIED PIPE, VALVES, FITTING, ETC. SHALL BE WRAPPED IN 8 MIL. POLYETHYLENE.

TT\T700

CITY OF TORRANCE		
DATE ISSUED: 12 MAY 2008	WATER GENERAL NOTES ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	STANDARD NO. T700 SHEET 2 OF 2



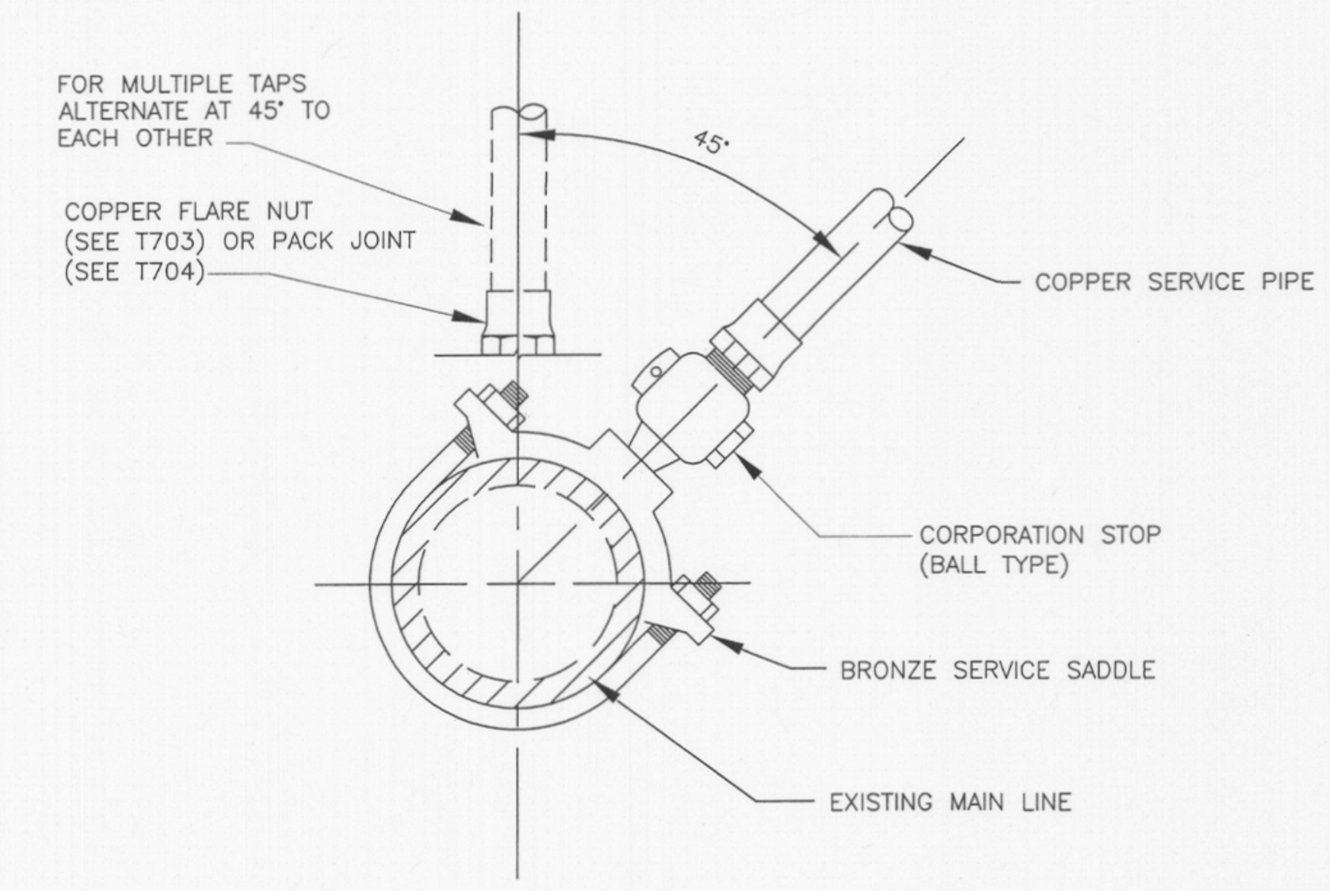
NOTES:

1. SAND BEDDING SHALL CONFORM TO SECTIONS 200-1.5.3 AND 200-1.5.5 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. DENSIFICATION OF BEDDING SHALL BE ACCOMPLISHED IN CONFORMANCE WITH 306-1.2.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
3. BEDDING SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY UNDER STRUCTURES AND 90% ELSEWHERE.

ACCOMPANYING STD.'S T700 AND T116

DV/EM/T701-1

CITY OF TORRANCE		
DATE ISSUED: JAN 2011	BEDDING FOR WATER PIPE ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	STANDARD NO. T 701 SHEET 1 OF 1



NOTES:

1. MINIMUM DISTANCE BETWEEN TAPS OR CONNECTIONS SHALL BE 20 INCHES, AND A MINIMUM OF 18 INCHES FROM END OF PIPE.

2. FOR STEEL MAINS DELETE SERVICE SADDLE. A TAP NOZZLE SHALL BE WELDED TO MAIN AND AN INSULATING BUSHING SHALL BE INSTALLED BETWEEN THE TAP NOZZLE AND THE CORPORATION STOP. FOR PIPES WITH WALL THICKNESS THINNER THAN 16 GAUGE A REINFORCEMENT COLLAR PLATE OR FULL WRAP REINFORCEMENT PLATE SHALL BE INSTALLED AS DETERMINED BY THE ENGINEER.

ACCOMPANYING STD.'S T700 AND T703 OR T704.

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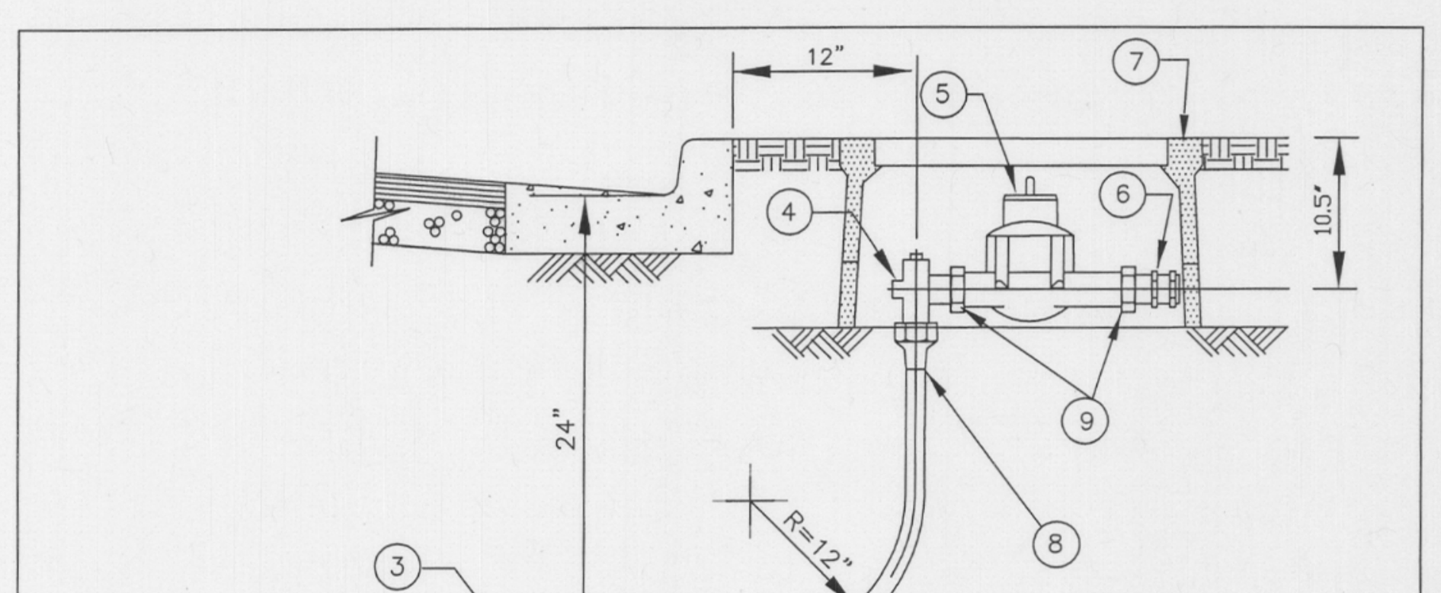
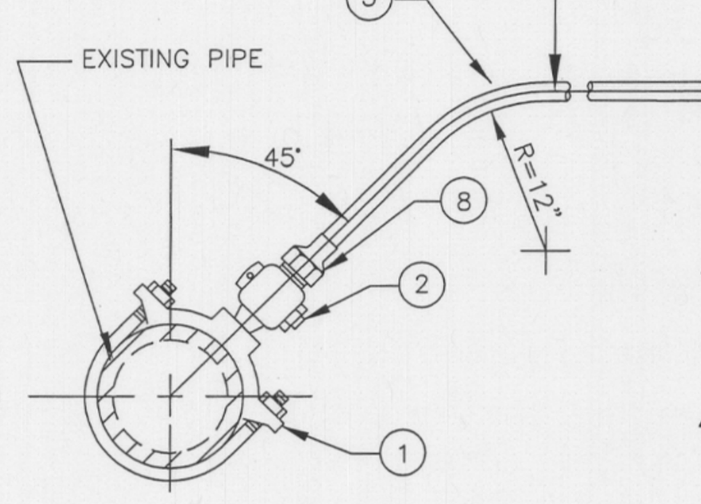
CITY OF TORRANCE		
DATE ISSUED: JAN 2011	1" & 2" SERVICE CONNECTION TO MAIN LINE ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	STANDARD NO. T 702 SHEET 1 OF 1





NOTES:

1. CORPORATION STOP SHALL BE INSTALLED ON THE MAIN DIRECTLY OPPOSITE THE LOCATION OF THE METER.
2. FOR 3/4" METER USE JONES BUSHING E128H OR CAMBRIDGE BRASS (CB) #440NL-N4R2
3. FOR SINGLE RESIDENTIAL HOMES, BUSINESSES, OR PRIVATE DEVELOPMENT, WITH LESS THAN 76 METERS, THE METERS SHALL BE SUPPLIED AND INSTALLED BY CITY AT REQUESTING PARTY'S EXPENSE.
4. FOR CAPITAL IMPROVEMENT PROJECTS, AND DEVELOPMENT PROJECTS WITH 76 METERS OR MORE THE METERS SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR AT CONTRACTOR'S EXPENSE

ACCOMPANYING STD.'S T700, T701, T702 AND T116

ITEM	DESCRIPTION	SIZE
1	SERVICE SADDLE-DOUBLE STRAP-BRONZE JONES 979, MCDONALD 3825, MUELLER BR2B, CAMBRIDGE BRASS #810 - CC THREAD	MAIN SIZE X 1"
2	CORPORATION STOP-JONES E1930, FORD FB600-4NL, MUELLER B25000N CAMBRIDGE BRASS 301INL-M7B7, MCDONALD 74701B	1"
3	COPPER TUBING-TYPE "K" SOFT	1"
4	ANGLE METER STOP-JONES E1964W, FORD BA23-444WNL, MUELLER B24255N CB 210NL-B7MF7, MCDONALD 74620	1" (SEE NOTE 2)
5	NEPTUNE T-10 WATER METER, E-CODER) R900i WITH STUBBY ANTENNA CU.FT. REGISTER	3/4" SL OR 1"
6	METER SWIVEL COUPLING - JONES E130, MCDONALD 74620 - FORD C38-23-2.5NL (3/4") - FORD C38-44-2.625NL (1")	3/4", 1"
7	METER BOX W/COVER -ARMORCAST	BOX#33 (A6000486) COVER #33 (A6000483-IT)
8	COPPER FLARE NUT	1"
9	NEOPRENE FULL FACE GASKET	

AREAS SUBJECT TO TRAFFIC LOADS SEE T-724

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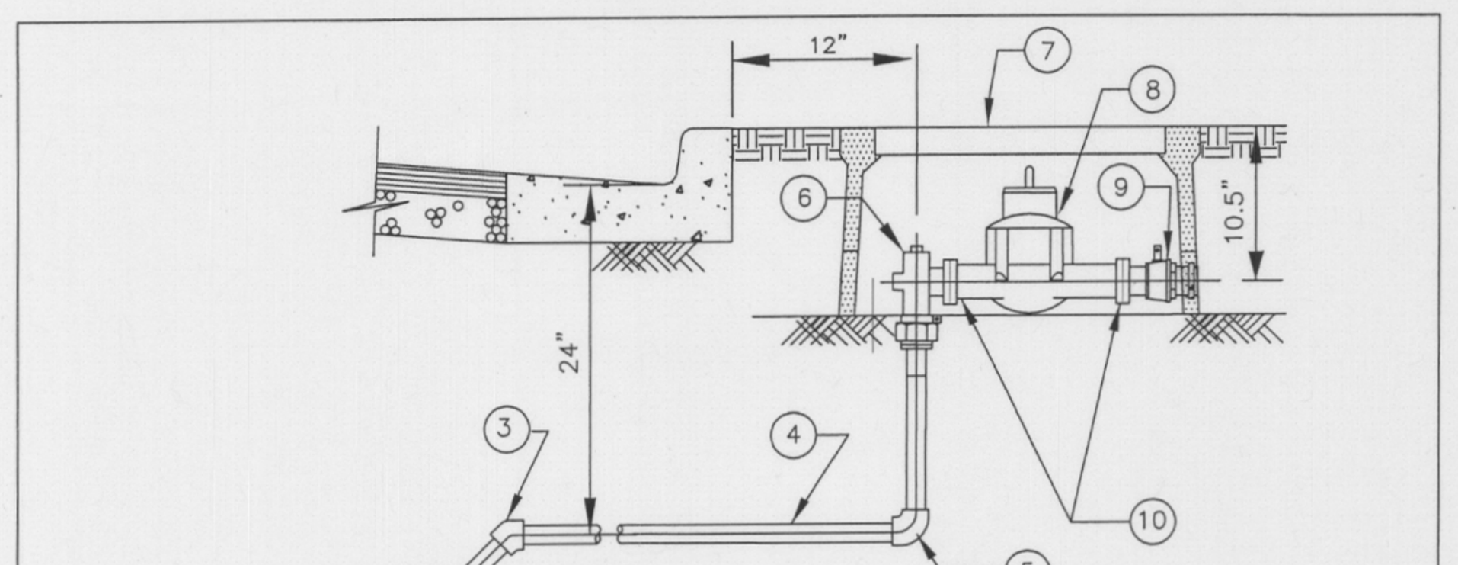
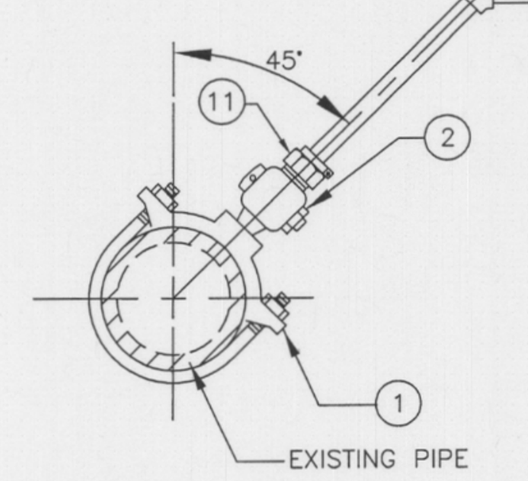
CITY OF TORRANCE		
DATE ISSUED: JAN 2011	TYPICAL 3/4" OR 1" METER (NON-TRAFFIC AREA) INSTALLATION WITH 1" SERVICE LINE ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	STANDARD NO. T 703 SHEET 1 OF 1





NOTE:

1. CORPORATION STOP SHALL BE INSTALLED ON THE MAIN DIRECTLY OPPOSITE THE LOCATION OF THE METER.
2. NUTS AND BOLTS FOR CONNECTIONS TO METER SHALL BE STAINLESS STEEL.
3. METER AND BALL VALVE ((9)) SHALL BE SUPPLIED AND INSTALLED BY TMWD AT REQUESTING PARTY'S EXPENSE. (NOT SUPPLIED BY TMWD FOR CAPITAL IMPROVEMENT PROJECTS).

NEPTUNE MODEL	SIZE	COVER	TRAFFIC COVER	BOX
T-10 DISC	1 1/2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
	2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
HI-PERFORMANCE TURBINE W/STRAINER (NOT SHOWN)	1 1/2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
	2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
TRU FLO COMPOUND W/ SEPARATE STRAINER (NOT SHOWN)	2"	A6001975, #67	A6001947T, #67	A6001974 PCX12, #66

ACCOMPANYING STD.'S T700, T701, T702 AND T116.

ITEM	DESCRIPTION	SIZE
1	SERVICE SADDLE-DOUBLE STRAP-BRONZE JONES 979, MCDONALD 3825, MUELLER BR2B, CAMBRIDGE BRASS (CB) #810- CC THREAD	MAIN SIZE X 2"
2	CORPORATION STOP-JONES E1930, FORD FB600-4NL, MUELLER B25000N CAMBRIDGE BRASS 301INL-M7B7, MCDONALD 74701B	2"
3	45° ELBOW-COPPER TO COPPER SJxSJ	2"
4	COPPER TUBING-TYPE "K" SOFT	2"
5	90° ELBOW-SJXSJ	2"
6	ANGLE METER STOP-JONES E1975W, FORD BFA43-777WNL, CB210NL-B7MF7	2"
7	METER BOX W/ COVER - ARMORCAST	SEE TABLE
8	NEPTUNE WATER METER, E-CODER)R900i WITH STUBBY ANTENNA CU. FT. REGISTER (TYPE TO BE DETERMINED BY TMWD)	SEE TABLE
9	BALL VALVE-JONES E1913W, FLGxFIP, CB# 212NL-F7MF7 -FORD BF13-777WNL OR 666WNL, W/HB67S HANDLE, FLGxFIP	1-1/2" OR 2"
10	NEOPRENE FULL FACE GASKET	1-1/2" OR 2"
11	PACK JOINT	

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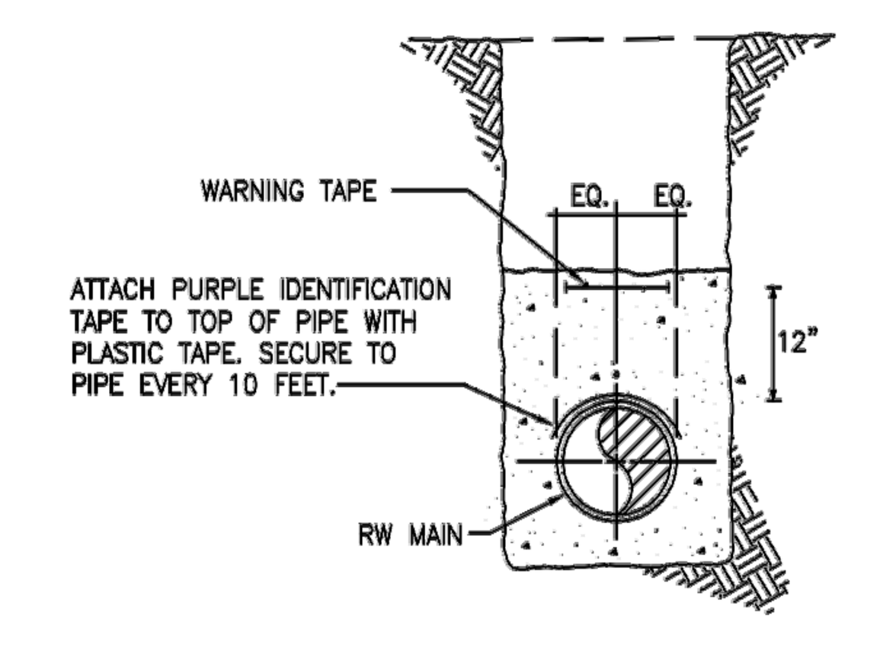
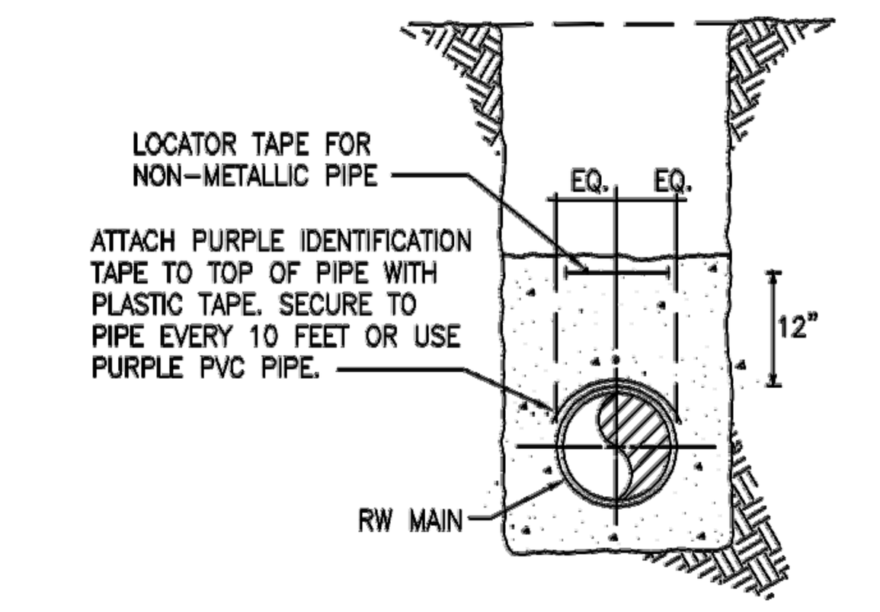
CITY OF TORRANCE		
DATE ISSUED: JAN 2011	TYPICAL 1-1/2" OR 2" METER (NON-TRAFFIC AREA) INSTALLATION WITH 2" SERVICE LINE ROBERT J. BESTE, PUBLIC WORKS DIRECTOR, R.C.E. NO. 50737	STANDARD NO. T 704 SHEET 1 OF 1



METALLIC RECLAIMED WATER PIPE



NON-METALLIC RECLAIMED WATER PIPE

CITY OF TORRANCE - ENGINEERING DEPARTMENT		
DATE ISSUED: 28 FEB 1997	RECLAIMED WATER PIPE IDENTIFICATION RICHARD W. BURTT, ENGINEERING DIRECTOR, R.C.E. NO. 32862	STANDARD NO. T801-0 SHEET 1 OF 1

" FOR REFERENCE ONLY "

CIVIL Design & Drafting inc.
885 Patriot Drive, Unit C
Moorpark, California 93021
Phone: 805-522-2622
Fax: 805-426-8016
email: CDD@civildesignanddrafting.com

REVISION BLOCK

REV#	APPR	DATE	REVISION DESCRIPTION	ENGINEER	DATE

REGISTERED PROFESSIONAL ENGINEER ★ IMAD ABOUJAWDAH ★ No. 51299 Exp. 6-30-14 CIVIL ★ STATE OF CALIFORNIA

CIVIL ENGINEER:
PREPARED BY OR UNDER THE DIRECTION OF:
IMAD ABOUJAWDAH
PE No.: 51299
DATE
Exp: 06/30/2014

McMASTER PARK - CITY OF TORRANCE

WATER SYSTEM NOTES

FOR
PUEBLO PARK
2252 DEL AMO BOULEVARS, TORRANCE, CALIFORNIA

SCALE: AS NOTED | DATE: 4/02/2014

SHEET: C-4
OF 4 SHEETS

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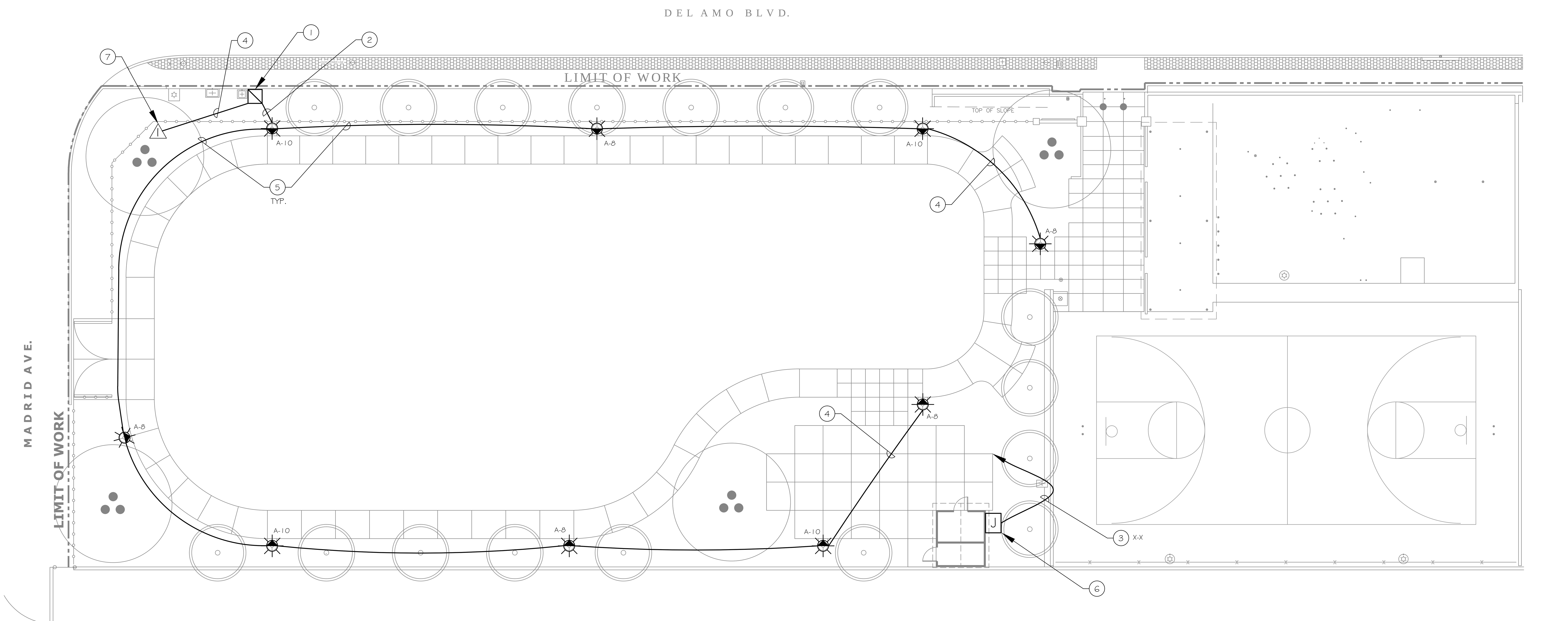
09:06:40 04 / 02 / 2014

PUEBLO PARK
SPORTS PARK
2252 Del Amo Blvd.

SHEET INDEX	
SHEET #	DESCRIPTION
EL-01	LIGHTING PLAN, NOTES, SPECS, LEGEND, SCHEDULE
EL-02	INSTALLATION DETAILS
EL-03	TITLE-24



ELECTRICAL CONSTRUCTION NOTES

1. THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATION.
2. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.
   A. ALL MATERIALS AND EQUIPMENT SHALL BE COMMERCIAL AND SHALL CARRY A U.L. LABEL.
   B. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UNDERWRITER'S LABORATORIES LIST OF APPROVED ITEMS AND SHALL MEET REQUIREMENTS OF ASTM, IEEE, 2008 NEC, NEMA, AND OTHER RECOGNIZED STANDARDS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE NATIONAL ELECTRIC CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
3. THE WORD "PROVIDE" AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE.
4. THE PROJECT SHALL COMPLY WITH TITLE-24 STANDARDS, INCLUDING 2010 CALIFORNIA BUILDING CODE (CBC). ALL WORK TO BE IN ACCORDANCE WITH THE 2010 CEC AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
5. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES.
6. ABOVE GRADE CONDUIT SHALL BE STANDARD RIGID STEEL ACCORDING TO CODE REQUIREMENTS. CONDUIT SHALL BE CONCEALED IN FINISHED AREAS, EXCEPT AS OTHERWISE APPROVED BY ARCHITECT. RIGID CONNECTIONS SHALL BE COMPRESSION TYPE. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 OR 80 PVC BURIED A MINIMUM OF 24".
7. WIRE SHALL BE COPPER CONDUCTORS WITH 600 VOLT INSULATION. ALUMINUM CONDUCTORS ARE NOT PERMITTED. #10 AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE #10. ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES. ALL WIRING OF ANY TYPE SHALL BE IN CONDUIT.
   A. GENERAL WIRING SHALL BE THWN OR THHN.
8. ABOVE GRADE WIRE CONNECTORS SHALL BE BY "SCOTCHLOCK" OR EQUAL FOR #8 OR SMALLER AND T&B "LOCK-TITE" FOR #6 AND LARGER.
9. THIS CONTRACTOR SHALL DO ALL CUTTING, CHASING OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS DIVISION. ANY CUTTING SHALL HAVE PRIOR APPROVAL OF THE OWNER.
10. PROVIDE SAFETY AND DISCONNECT SWITCHES, SHALL BE FUSED OR NON-FUSED AS CALLED FOR ON DRAWINGS AND AS REQUIRED BY CODE. SWITCHES SHALL BE HEAVY DUTY, LOAD AND HORSEPOWER RATED AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC OR EQUAL.
11. JUNCTION, PULL BOXES AND COVERS SHALL BE GALVANIZED STEEL, CODE GAUGE SIZE AND ACCESSIBLE.
12. ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN HIS WORK AS THE JOB PROGRESSES, AND UPON COMPLETION SHALL TURN OVER TO THE OWNER A "RECORD" SET OF PRINTS SHOWING THE CHANGES.
13. ALL ELECTRIC WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING MAINTAINING AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUITS SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEASED 3" FROM WATER LINES WHEREVER THEY RUN ALONGSIDE OR ACROSS SUCH LINES. CONDUCTORS SHALL BE ON CONDUIT, DUCTS, OR APPROVED RACEWAYS.
14. ALL 90 DEGREE ELBOWS TO BE FACTORY MADE BENDS.
15. PRIVATE LIGHTING SYSTEM SHALL NOT BE JOINT TRENCH WITH PUBLIC UTILITY SYSTEM.
16. CONTRACTOR TO MAINTAIN PROPER SEPARATION AS REQUIRED BY THE UTILITY COMPANIES.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR ANY AND ALL UTILITY AND CITY INSPECTIONS.
18. ALL GROUND CONDUCTORS SHALL BE SPLICED TOGETHER WITH APPROVED CONNECTOR AT PULL BOXES AND CONNECTED TO GROUND LUG INSIDE POLE.
19. SEE IMPROVEMENT PLANS FOR SITE, SEWER AND WATER (ETC.) IMPROVEMENTS PRIOR TO START OF CONSTRUCTION.
20. CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
21. THESE PLANS ARE SCHEMATIC AND ARE FOR THE PURPOSE OF SHOWING HOW TO CONNECT THE ELECTRICAL SYSTEM. WHILE THE DRAWING IS AT ACTUAL SCALE, THE SYMBOLS REFERENCED ARE NOT, AND MAY APPEAR TO SHOW THE EQUIPMENT IN PLACES NOT INTENDED. THE CONTRACTOR IS TO FIELD VERIFY ALL UTILITY COMPANY SERVICE POINTS/METER LOCATIONS, POLES, PULL BOXES BUILDING LIGHT LOCATIONS, SERVICE EQUIPMENT LOCATIONS AND OTHER ELECTRICAL APPURTENANCES PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE ADDRESSED TO THE CITY BY MEANS OF A "REQUEST FOR INFORMATION" (RFI). CONTRACTOR IS TO VERIFY ALL LIGHT LOCATIONS WITH THE CITY PRIOR TO START OF CONSTRUCTION AND DURING STAKING. REFER TO LIGHT STANDARD DETAIL FOR STANDARDS.
    CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
22. PANEL CIRCUIT DIRECTORY TO COMPLY WITH SECTION 408.4, CEC.
23. NATIVE SOIL SHALL BE ACCEPTABLE FOR TRENCH BACK FILL PROVIDED THAT THE FILL MATERIAL USED SHALL PASS THROUGH A 1" SIEVE. SEE NOTES & DETAIL C/E-2.
24. CONTRACTOR SHALL LABEL EACH CIRCUIT WITH PHENOLIC PLASTIC LABEL TAGS IN ANY DEVICE THAT HAS ACCESS. THIS SHALL INCLUDE LIGHT POLES, PULL BOXES, PANELS, AND ETCETERA. PANEL, CIRCUIT NUMBER AND VOLTAGE SHALL BE IDENTIFIED. TAGS SHALL BE AFFIXED WITH NYLON ZIP-TIES.

SPECIFICATIONS

1. ALL PULL BOXES TO BE TYPE 3-1/2 PB (10-1/2" X 17-1/2" X 12"D) WITH CONCRETE BOLT DOWN COVER MARKED "ELECTRICAL" (BL WALLACE DISTRIBUTION (714) 761-2071, BOX-C9EB, LID-C9R06). LEAVE 3' SLACK OF CONDUCTORS IN PULLBOX. SIZE PER SECTION 370-28, CEC. PROVIDE WITH McCAIN VANDAL RESISTANT PULL BOX INSERTS. 760/727-8100.
2. FUSE HOLDERS TO BE WATERPROOF AND UL LISTED.
3. ALL CONDUIT BELOW GRADE TO BE MINIMUM 1" PVC SCHEDULE 40.
4. ALL SPLICES BELOW GRADE SHALL BE MADE IN APPROVED PULL BOXES AND SHALL BE WATERTIGHT. USE ONLY EPOXY ENCAPSULATED TYPE 3M BAGS OR EQUAL.
5. ALL BELOW GRADE CONDUIT SHALL BE SEALED UPON COMPLETION OF INSTALLATION.
6. ALL ELECTRICIANS TO HAVE PROOF OF CALIFORNIA ELECTRICIANS CERTIFICATE/CREDENTIALS.

LEGEND

- (line) BELOW GRADE ELECTRICAL CONDUIT AND WIRE RUN. SEE PLANS FOR TYPE AND # OF WIRES.
- (box with diagonal) EX. ELECTRICAL METER PEDESTAL
- (split box) CONCRETE UNDERGROUND PULLBOX. SEE SPEC. 1 AND DETAIL B/E-2.
- A-10 CIRCUIT DESIGNATION. 1ST # INDICATES PANEL. REMAINING #'S INDICATE CIRCUIT POSITIONS.
- (site light symbol) TYPE 'A', SITE LIGHT. SEE SCHEDULE AND DETAIL A/E-2
- (triangle) IRRIGATION CONTROLLER. VERIFY EXACT LOCATION.
- J ABOVE GRADE JUNCTION BOX.

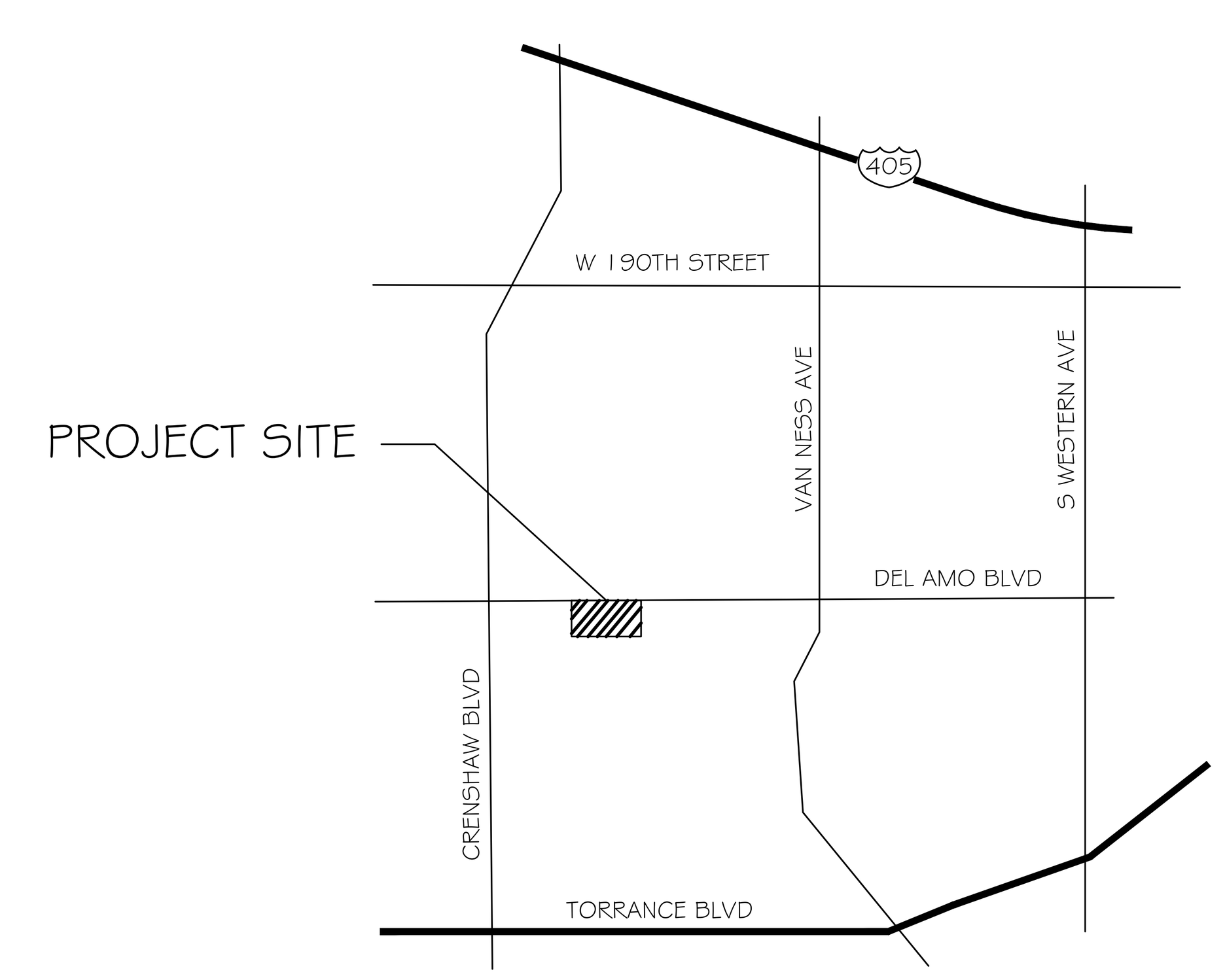
PLAN NOTES

1. EX. ELECTRICAL METER PEDESTAL. VERIFY EXACT LOCATION.
2. 1"C-3#10, 1#10 GND. BURY 24" BELOW GRADE. CONTRACTOR TO PROVIDE PHOTOCELL INSTALLED INSIDE OF METER PEDESTAL AND LIGHTING CONTACTORS AS NECESSARY. CONNECT TO EXISTING 20A, 1P BREAKERS.
3. 1"C-2#10, 1#10 GND. BURY 24" BELOW GRADE. CONTRACTOR SHALL MAKE CONNECTION TO ELECTRICAL PANEL. CONTRACTOR TO PROVIDE AS NECESSARY 1P, 20A BREAKER IN AVAILABLE PANEL POSITION AS REQUIRED AND NECESSARY.
4. PROVIDE 1" C- 2#10, 1#10 GND. BURY 24" BELOW GRADE.
5. PROVIDE 1" C- 3#10, 1#10 GND. BURY 24" BELOW GRADE.
6. PREFABRICATED RESTROM BUILDING ELECTRICAL POINT OF CONNECTION. CONTRACTOR SHALL CONNECT ALL BUILDING ELECTRICAL TO THIS LOCATION. SEE DETAIL D/E-2.
7. IRRIGATION CONTROLLER. VERIFY EXACT LOCATION WITH LANDSCAPE PLANS AND MAKE CONNECTION.

LUMINAIRE SCHEDULE

	COUNT	TYPE	SYMBOL	FIXTURE: HALOG	INDUC	LED	LPS	MH	HPS	VOLTS: 120	240	12	480	LAMPS: NO.	TYPE	WATTS	MOUNTING: WELL	SURF	H20	WALL	POLE	DESCRIPTION	MFR & CATALOG NO.
*	9	A	(site light)			X				X					40 LED	70					X	SITE LIGHTS- SEE DETAIL A/E-2	CREE-BETA LIGHTING ARE-EDR-4MB-R3-04-D-UL-BZ-525-TL (SET TO 350mA HI)-43K POLE-AMERON PGF-140-9

* DISTRIBUTOR TO CALL TOM BRINDLY OF WESTERN LIGHT SOURCE (702-466-2120) FOR CREE LED PRICING.



VICINITY MAP N.T.S.

TITLE-24 APPLICATION CATEGORIES

PUEBLO PARK
TORRANCE, CA

(A) LIGHTING POWER ALLOWANCE FOR GENERAL HARDSCAPE-ALL DRIVEWAY'S, PARKING STALLS AND PLANTING ISLANDS, SIDEWALKS, STAIRS 11,128 S.F. OF ILLUMINATED HARDSCAPE. TOTAL GENERAL HARDSCAPE LIGHTING ALLOWANCE=2,326 WATTS. TOTAL INSTALLED WATTS= 630 PER OLTG-1C PART 4 OF 4

DIGALERT
DIAL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

0' 5' 10' 20'
Scale: 1"=10'-0"

LDC13/08291

REGISTERED PROFESSIONAL ENGINEER
MILTON C. NIEDERHAUS
No. E 8636
ELECTRICAL
EXP. 9/14
STATE OF CALIFORNIA

REVISIONS
1. 1st submittal 10/24/13
2. 2nd submittal 04/14/14

PUEBLO PARK
Torrance, California
Landscape Improvement Plans

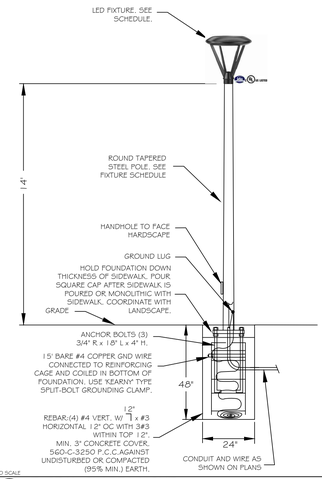
City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

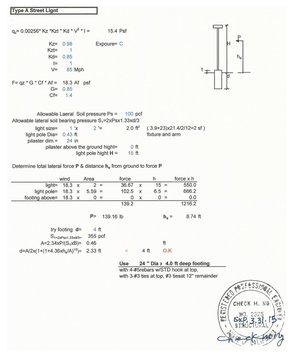
LIGHTING PLAN
NOTES, SCHEDULES

VISUAL CONCEPTS
-PRODUCERS OF LIGHTING FUSION-
ph:858-278-4503 fax:858-278-4573
7297 Ronson Rd. Suite C | San Diego, Ca. 92111
WWW.VISUALCONCEPTS-INC.COM

project manager: KPSR
approved by: MCN
drawn by: PJD
date: 04/01/14
scale: 1" = 10'-0"

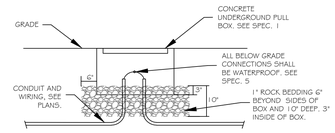
SHEET 1 of 3





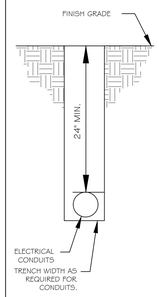
NO SCALE

(A) TYPE 'A-C' AREA LIGHT INSTALLATION DETAIL



NO SCALE

(B) PULL BOX INSTALLATION DETAIL



BACKFILL MATERIAL:
THE MATERIAL USED FOR BACKFILLING THE TRENCH ABOVE THE SHADING MATERIAL AND EXTENDING UPWARD TO THE SUBGRADE SHALL BE FREE OF ROCKS OR CLODS LARGER THAT 6" IN ANY DIMENSION. THE COARSE MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FINER MATERIAL. THE AMOUNT OF ROCKS OR CLODS SHALL BE LIMITED, IN THE OPINION OF THE INSPECTOR. THE BACKFILL MATERIAL SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES, ORDINANCES AND CITY STANDARDS AND BE FREE OF DEBRIS AND ORGANIC MATTER.

SHADING MATERIAL AND INSTALLATION:
NATURAL SAND, MANUFACTURED SAND, DECOMPOSED GRANITE, ROCK FREE SANDY LOAM, EXISTING NATIVE MATERIAL OR COMBINATION THEREOF. AGGREGATE MATERIAL SHALL BE CAPABLE OF PASSING THROUGH A ½" SIEVE. GRAVEL SHALL NOT AMOUNT TO MORE THAN 50% OF MIXTURE. SCREENING OR OTHER SUITABLE MEANS MAY BE REQUIRED AT THE INSPECTORS DISCRETION.
THE EARTH TRENCH BOTTOM SHALL BE STABLE WITH A UNIFORM GRADE CONTAINING NO HARD CLODS, ROCKS, AND ETCETERA, THAT MAY DAMAGE THE CONDUIT. IF IN THE OPINION OF THE INSPECTOR, THE CONDUIT MAY BE DAMAGED DURING COMPACTION, A 3" SHADE OF MATERIAL ABOVE AND BELOW THE CONDUIT MAY BE REQUIRED.

COMPACTION:
SPADING AND BACKFILL SHOULD BE COMPACTED IN ACCORDANCE WITH GOVERNMENTAL AGENCIES AND SHALL HAVE A MINIMUM OF 90% RELATIVE COMPACTION. VERIFY REQUIREMENTS WITH INSPECTOR.

NOTE TO CONTRACTOR:
MAINTAIN PROPER SEPARATION FROM ALL WET AND DRY UTILITIES PER THE CITY OF SAN DIEGO AND SGE&E.

NO SCALE

(C) TRENCH AND CONDUIT INSTALLATION DETAIL

EXISTING PEDESTAL

MOUNTING: PEDESTAL PANEL A LOCATION: DEL AMO BLVD
VOLTAGE: 120/240 PHASE: 1 WIRE: 3 AIC SYM: 10,000 BUS: 125A MAIN: 100A/2P

LOCATION	WATTAGE ØA	WATTAGE ØB	LTG	MOS	PHR	BKR	CKT	CKT	BKR	PHR	MOS	LTG	WATTAGE ØA	WATTAGE ØB	LOCATION	
MAIN					00	1	A	2	20	/	1	3	1620		EX. BB CT LTS	
					2	3	B	4	/	2				1620		
EX. LIGHTING	480		8	1	20	5	A	6	20	1	3		540		EX. RCPTS	
EX. LTG CONTROLS		360	2	1	20	7	B	8	20	1		5		350	PARK LIGHTS	(A)
(C) IRR. CONT.	300			1	20	9	A	10	20	1		4	280		PARK LIGHTS	(A)
(C) SPARE				1	20	11	B	12	20	1	1	2		340	RESTROOM	(B)
	780	360	WATTS/LINE										2440	1990		

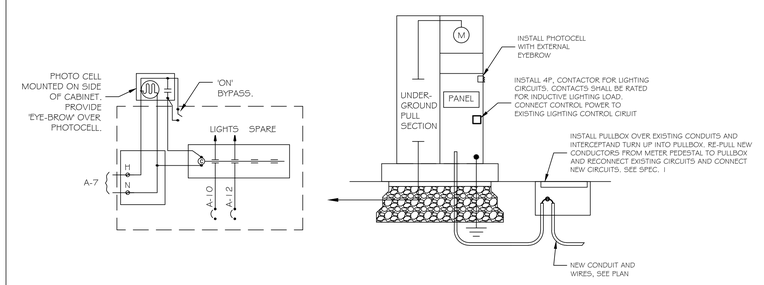
TOTAL ØA: 3220 WATTS
TOTAL ØB: 2351 WATTS

TOTAL WATTS: 5571
PANEL AMPS: 23.2
HIGH PHASE LCL AMPS: 33.5

BREAKERS SHALL BE SERIES RATED AND MARKED ACCORDING TO NEC.

(A) NEW CIRCUIT, TO BE CONTROLLED BY PHOTOCELL AND LIGHTING CONTACTOR. CONTRACTOR TO INSTALL CONTROLS IN METER PEDESTAL.
(B) NEW CIRCUIT.
(C) REPLACE 2P BREAKER WITH (2) 1P BREAKERS.

(D) EXISTING METER PEDESTAL AND PANEL SCHEDULE



(D) NEW LIGHTING CONTROLS INSTALLATION DETAIL

LDC13/08291

REGISTERED PROFESSIONAL ENGINEER
MILTON C. NIEDERHAUS
No. E 8636
ELECTRICAL
EXP. 9/14
STATE OF CALIFORNIA

REVISIONS

1. 1st submittal 10/24/13
2. 2nd submittal 04/14/14

PUEBLO PARK

Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

INSTALLATION DETAILS

VISUAL CONCEPTS
PRODUCERS OF LIGHTING FUSION
OFFICE: 858-278-9503 FAX: 858-278-9573
7207 ARJOSA DR. SUITE C | SAN DIEGO, CA. 92111
WWW.VISUALCONCEPTSINC.COM

project manager: KPSR
approved by: MCN
drawn by: PJD
date: 04/01/14
scale: 1" = 10'-0"

SHEET 2 of 3

0' 5' 10' 20'
Scale: 1" = 10'-0"

Pueblo Park - City of Torrance

LIGHTING MANDATORY MEASURES: NONRESIDENTIAL — LTG-MM

Project Name: *PUEBLO PARK* — Date: *9/27/2013*

Indoor Lighting Measures:

§131(d):	**Shut-off Controls**
1.	For every floor, all interior lighting systems shall be equipped with a separate automatic control to shut off the lighting. This automatic control shall meet the requirements of Section 119 and may be an occupancy sensor, automatic time switch, or other device capable of automatically shutting off the lighting.
2.	Override for Building Lighting Shut-off: The automatic building shut-off system is provided with a manual, accessible override switch in sight of the lights. The area of override is not to exceed 5,000 square feet.
§119(h):	Automatic Control Devices Certified: All automatic control devices specified are certified, all alternate equipment shall be certified and installed as directed by the manufacturer.
§111:	Fluorescent Ballast and Luminaires Certified: All fluorescent fixtures specified for the project are certified and listed in the Directory. All installed fixtures shall be certified.
§131(a):	Individual Room/Area Controls: Each room and area in this building is equipped with a separate switch or occupancy sensor device for each area with floor-to-ceiling walls.
§131(b):	Uniform Reduction for Individual Rooms: All rooms and areas greater than 100 square feet and more than 0.8 watts per square foot of lighting load shall be controlled with bi-level switching for uniform reduction of lighting within the room.
§131(c):	Daylight Area Control: All rooms with windows and skylights that are greater than 250 square feet and that allow for the effective use of daylight in the area shall have 50% of the lamps in each daylit area controlled by a separate switch; or the effective use of daylight cannot be accomplished because the windows are continuously shaded by a building on the adjacent lot. Diagram of shading during different times of the year is included on plans.
§131(c):	Display Lighting. Display lighting shall be separately switched on circuits that are 20 amps or less.6.

Outdoor Lighting Measures:

§130(c)1:	Mandatory lighting power determination for medium base sockets without permanently installed ballasts
§132(a):	All permanently installed luminaires with lamps rated over 100 Watts either have a lamp efficacy of at least 60 lumens per Watt or are controlled by a motion sensor.
§132(b):	All Luminaires with lamps rated greater than 175 Watts in hardscape area, including parking lots, building entrances, canopies, and all outdoor sales areas meet the Cutoff Requirements.
§132(c)1:	All permanently installed outdoor lighting meets the control requirements listed.
§132(c):	Building facades, parking lots, garages, canopies, and outdoor sales areas meet the Multi-Level Lighting Requirements listed.

CERTIFICATE OF COMPLIANCE (Part 1 of 4) OLTG-1C

Project Name: *PUEBLO PARK* — Date: *9/27/2013*
Project Address: *TORRENCE, CA* — Total Illuminated Area: *11,128*

GENERAL INFORMATION

Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration

Documentation Author's Declaration Statement

I certify that this Certificate of Compliance documentation is accurate and complete.

Name: *Philip J Dodge*	Signature: [signature]
Company: *Visual Concepts INC*	Date: *9/27/2013*
Address: *7297 Ronson Road ste.C*	CEA # CEPE #
City/State/Zip: *San Diego, CA 92111*	Phone: *858-278-4503*

Principal Lighting Designer's Declaration Statement

- I am eligible under Division 3 of the California Business and Professional Code to accept responsibility for the lighting design.
- This Certificate of Compliance identifies the lighting features and performance specifications required for compliance with Title 24, Pages 1 and 6 of the California Code of Regulations.
- The design features represented on this Certificate of Compliance are consistent with the information provided to document this design on the other applicable compliance forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Name: *Milton C. Neiderhaus*	Signature: [signature]
Company: *Visual Concepts INC*	Phone: *858-278-4503*
Address: *7297 Ronson Rd. Suite C.*	License #: E 8636
City/State/Zip: *San Diego, CA 92111*	Date: 9/14

Principal Lighting Designer's Declaration

☑ I certify that this Certificate of Compliance documentation is accurate and complete, and accounts for all outdoor lighting power, including building mounted, pole mounted, as well as all other lighting designed for the site, and that Additional Lighting Power Allowances for Specific Applications or Additional Lighting Power Allowances for Ordinance Requirements have not been counted more than one time for the same area, in accordance with Section 147 of the Standards.

Outdoor Lighting Mandatory Measures
Indicate location on building plans of Mandatory Measures Note Block: ______________________________

LIGHTING COMPLIANCE FORMS & WORKSHEETS (check box if worksheets is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms; please refer to the Nonresidential Manual published by the California Energy Commission.

☑	OLTG-1C	Certificate of Compliance. All 4 pages required on plans for all submittals.
☑	OLTG-2C	(Pages 1 of 3) Lighting Wattage Allowances for General Hardscape, Sales Frontage, or Ornamental Lighting. Optional on plans.
☐	OLTG-2C	(Pages 2 of 3) Lighting Wattage Allowance for Per Application or Per Area. Optional on plans.
☐	OLTG-2C	(Pages 3 of 3) Additional Lighting Power Allowance for Ordinance Requirements. Optional on plans.

CERTIFICATE OF COMPLIANCE (Part 2 of 4) OLTG-1C

Project Name: *PUEBLO PARK* — Date: *9/27/2013*

COMPLIANCE FIXTURE / LIGHTING CONTROL SCHEDULE and FIELD INSPECTION CHECKLIST

INSTALLATION CERTIFICATE, OLTG-1INST (Retain a copy and verify form is completed and signed.) **Field Inspection** ☐

CERTIFICATE OF ACCEPTANCE, OLTG-2A (Retain a copy and verify form is completed and signed.) **Field Inspection** ☐

A	B	C	D	E	F		G	H	I	
Luminaire Schedule				Installed Watts						
Name or Item Tag	Luminaire Description[1] See footnote below (i.e.: 1 lamp pole-top shoe-box 400 watt metal halide)	Cutoff Designation	Watts per Luminaire	Special Features	How wattage was determined: Default from NA-8	According to §130 (D or E)	Number of Luminaires	Installed Watts (D X G)	Field Inspector[2]: Pass	Fail
TYPE-A	(1) 40 LED Site Lights 70w		70.0	☐	☑	☐	9	630	☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
				☐	☐	☐			☐	☐
Enter total into OLTG-1C; Page 4 of 4: Row H; Total Installed Watts:								630		

1. Type of luminaire (i.e.: post top, wall pack, surface, shoe box); for non-incandescent luminaires, indicate nominal lamp wattage and lamp type (i.e.: fluorescent, incandescent, HID); ballast type (i.e.: electronic or magnetic); number of lamps and number of ballasts per luminaire. For incandescent luminaires, the luminaire wattage listed in column D shall be the maximum relamping rated wattage on a permanent factory-installed label on the luminaire, NOT the wattage of the lamp (bulb) used, in accordance with Section 130(d or e).
2. If Fail then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

EXEMPT LUMINAIRES — **Field Inspection** ☐

Name or Symbol	Description of exempt luminaires in accordance with §147

MANDATORY CONTROLS — **Field Inspection** ☐

#	Description	Location	#	Description	Location
1	OUTDOOR PHOTOCONTROL/ TIMECLOCK	METER PEDESTAL			

SPECIAL FEATURES INSPECTION CHECKLIST (See Page 2 of 4 of OLTG-1C)

The local enforcement agency should pay special attention to the items specified in this checklist. These items require special written justification and documentation, and special verification. The local enforcement agency determines the adequacy of the justification, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

Filed Inspector Notes or Discrepancies:

CERTIFICATE OF COMPLIANCE (Part 3 of 4) OLTG-1C

Project Name: *PUEBLO PARK* — Date: *9/27/2013*

A. OUTDOOR LIGHTING ZONE

OUTDOOR LIGHTING ZONE: ☐ OLZ 1 ☐ OLZ 2 ☑ OLZ 3 ☐ OLZ 4

Is the Outdoor Lighting Zone: ☑ Default in accordance with §10-114, or ☐ Amended by JHA

Complete the information below if the default Outdoor Lighting Zone has been amended by the local jurisdiction having authority (JHA):

- ☐ The site is a government designated park, recreational area, wildlife preserve, or portion thereof, and has been designated as LZ2 or LZ3, in accordance with Table 10-114-A, because the site is contained within such a zone.
- ☐ The local jurisdiction having authority has officially adopted a change to the State Default Lighting Zone and has notified the Energy Commission by providing the materials required in §10-114(d) to the Executive Director.
- ☐ The adopted change is posted on the Energy Commission website.

B. ADDITIONAL LIGHTING POWER ALLOWANCE FOR ORDINANCE REQUIREMENTS

Are additional lighting power allowances for ordinance in Table 147-C used? ☐ Yes ☑ No

Complete the information below if additional lighting power allowances for ordinance requirements are used:

- ☐ The local jurisdiction having authority has officially adopted specific outdoor light levels, which are expressed as average or minimum footcandle levels, by following a public process that allowed for formal public notification, review, and comment about the proposed change.
- ☐ The local jurisdiction having authority which adopted specific outdoor light levels and has notified the Commission by providing the following materials required §10-114(f) to the Executive Director.

C. ACCEPTANCE FORMS

Required Acceptance Tests

Designer:
This form is to be used by the designer and attached to the plans. Listed below is the acceptance test for the Lighting system, **OLTG-2A**. The designer is required to check the acceptance tests and list all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance. If all the lighting system or control of a certain type requires a test, list the different lighting and the number of systems. The NA7 Section in the Appendix of the Nonresidential Reference Appendices Manual describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately. **Forms can be grouped by type of Luminaire controlled.**

Enforcement Agency:
Systems Acceptance. Before Occupancy Permit is granted for a newly constructed building or space or when ever new lighting system with controls is installed in the building or space shall be certified as meeting the Acceptance Requirements.
The **OLTG-2A** form is not considered a complete form and is not to be accepted by the enforcement agency unless the boxes are checked and/or filled and signed. In addition, a Certificate of Acceptance forms shall be submitted to the enforcement agency that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of §10-103(b) of Title 24 Part 6. The field inspector must receive the properly filled out and signed forms before the building can receive final occupancy. A copy of the **OLTG-2A** for each different lighting luminaire control(s) must be provided to the owner of the building for their records.

Certificate of Acceptance

	Luminaires Controlled			OLTG-2A[1]
Equipment Requiring Testing	Description	Qty. of Like Controls	Location	Outdoor Lighting Acceptance Tests
PHOTOCELL CONTROLS/ TIMECLOCK	OUTDOOR PHOTOCONTROL/ TIMECLOCK	1	SWITCHGEAR	INSTALLING CONTRACTOR

1. Insert: **OMS** for Outdoor Motion Sensor; **OLSC** for Outdoor Lighting Shutoff Controls; **OP** for Outdoor Photocontrol; **ATS** for Astronomical Time Switch; and, **STS** for Standard (non-astronomical) Time Switch acceptance.

CERTIFICATE OF COMPLIANCE (Part 4 of 4) OLTG-1C

Project Name: *PUEBLO PARK* — Date: *9/27/2013*

ALLOWED AND INSTALLED OUTDOOR LIGHTING POWER

		Lighting Wattage Power Allowance
A	Lighting power allowance for general hardscape (from OLTG-2C Page 1 of 3)	2,326
B	Specific application lighting wattage allowance per unit length (from OLTG-2C Page 1 of 3)	0
C	Specific application lighting wattage allowance for ornamental lighting (from OLTG-2C Page 1 of 3)	0
D	Specific application lighting wattage allowance per application (from OLTG-2C Page 2 of 3)	0
E	Specific application lighting wattage allowance per area (from OLTG-2C Page 2 of 3)	0
F	Specific application lighting wattage allowance for ordinance requirements (from OLTG-2C Page 3 of 3)	0
G	Total Allowed Wattage = Sum of rows A through F:	2,326
H	Total installed watts (from Compliance Fixture Schedule, (from OLTG-2C Page 1 of 3)	630

Complies if wattage in row H is less than or equal to the wattages in row G ☑ Yes ☐ No

OUTDOOR LIGHTING WORKSHEET (Part 1 of 3) OLTG-2C

Project Name: *PUEBLO PARK* — Date: *9/27/2013*

A. LIGHTING POWER ALLOWANCE FOR GENERAL HARDSCAPE

AREA WATTAGE ALLOWANCE (AWA)			LINEAR WATTAGE ALLOWANCE (LWA)			INITIAL WATTAGE ALLOWANCE	TOTAL GENERAL HARDSCAPE LIGHTING ALLOWANCE
A	B	C	D	E	F	G	H
Illuminated Hardscape Area	AWA Per Square Foot	AWA (A X B)	Perimeter Length of General Hardscape	LWA Per Linear Foot	LWA (D X E)	IWA (Watts)	C + F + G
11,128	0.092	1,024	578	0.920	532	770	2,326
Enter total into OLTG-1C; Page 4 of 4; Row A; Lighting Power Allowance for General Hardscape							2,326

☑ **Yes AWA, LWA, and IWA from Table 147-A was used as appropriate for the Outdoor Lighting Zone**

B. SPECIFIC APPLICATION LIGHTING WATTAGE ALLOWANCE PER UNIT LENGTH (Available only for sales frontage)

DETERMINE WATTAGE ALLOWANCE				LUMINAIRE TYPE		DESIGN WATTS			
A	B	C	D	E	F	G	H	I	J
Specific Lighting Application	Linear Foot of Frontage	Sales Frontage Allowance for OLZ (Watts per LF)	Wattage Allowance (B X C)	Name or Symbol	Luminaire Type	Lumin QTY	Watts Per Luminaire	Design Watts (G X H)	Allowed Watts Minimum of D or I
Enter total into OLTG-1C; Page 4 of 4; Row B; Specific Application Lighting Wattage Allowance Per Unit Length									0

C. SPECIFIC APPLICATION WATTAGE ALLOWANCE FOR ORNAMENTAL LIGHTING

DETERMINE WATTAGE ALLOWANCE				LUMINAIRE TYPE		DESIGN WATTS			
A	B	C	D	E	F	G	H	I	J
Specific Lighting Application	Square feet of Harscape	Ornamental Lighting Allowance for OLZ (Watts per ft^2)	Wattage Allowance (B X C)	Name or Symbol	Luminaire Type	Lumin QTY	Watts Per Luminaire	Design Watts (G X H)	Allowed Watts Minimum of D or I
Enter total into OLTG-1C; Page 4 of 4; Row C; Specific Application Wattage for Ornamental Lighting									0

0' 5' 10' 20'
Scale: 1"=10'-0"

LDC13/08291

REGISTERED PROFESSIONAL ENGINEER
MILTON C. NIEDERHAUS
No. E 8636
ELECTRICAL
EXP. 9/14
STATE OF CALIFORNIA

REVISIONS

1. 1st submittal 10/24/13
2. 2nd submittal 04/14/14

PUEBLO PARK

Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

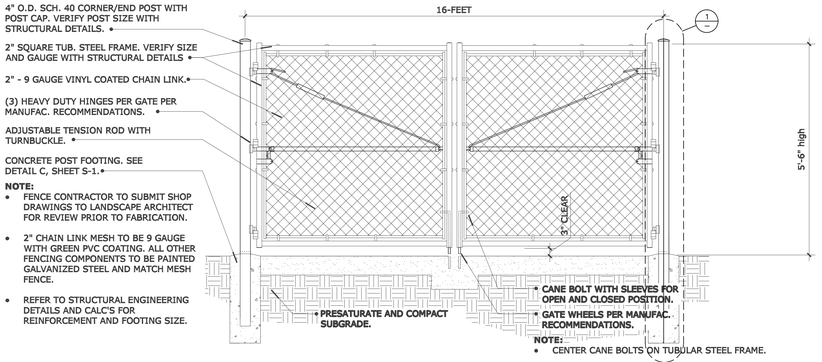
TITLE-24

VISUAL CONCEPTS
-PRODUCERS OF LIGHTING FUSION-
ph:858-278-4503 fax:858-278-4573
7297 Ronson Rd. Suite C | San Diego, Ca. 92111
www.visualconcepts-inc.com

project manager: KPSR
approved by: MCN
drawn by: PJD
date: 04/01/14
scale: 1" = 10'-0"

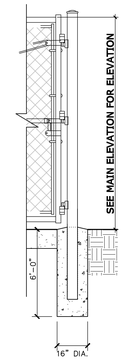
S H E E T
3 of 3

Pueblo Park - City of Torrance

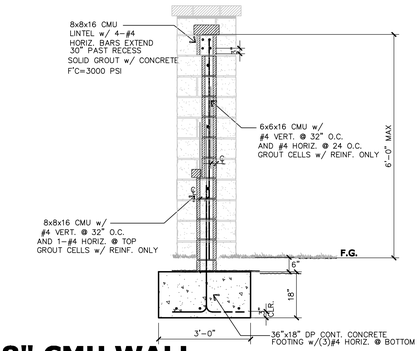


b VEHICULAR GATE

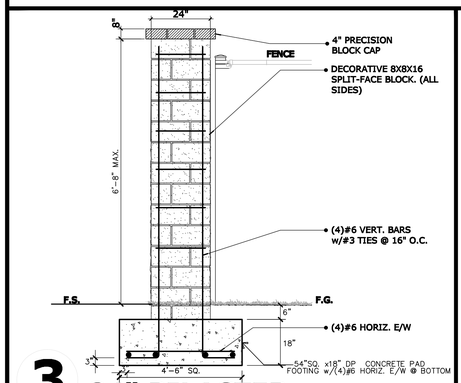
SCALE: 1" = 1'-0"
Filename.dwg



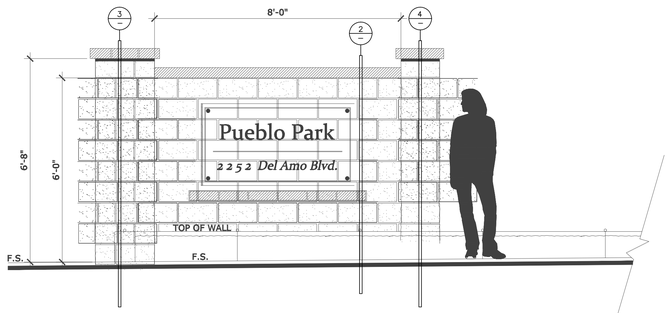
1 GATE FOUNDATION



2 8" CMU WALL

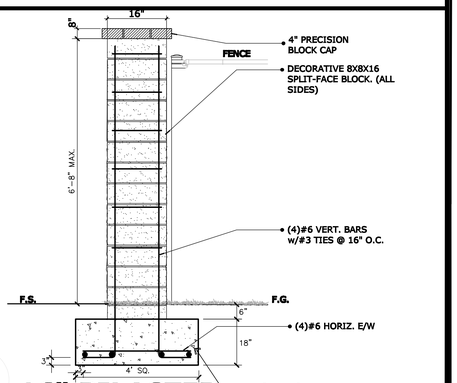


3 24" PILASTER



f SIGNAGE WALL

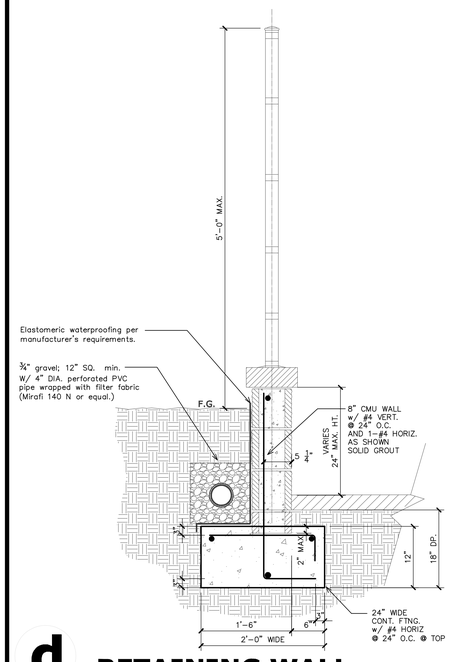
SCALE: 1/2" = 1'-0"
Filename.dwg



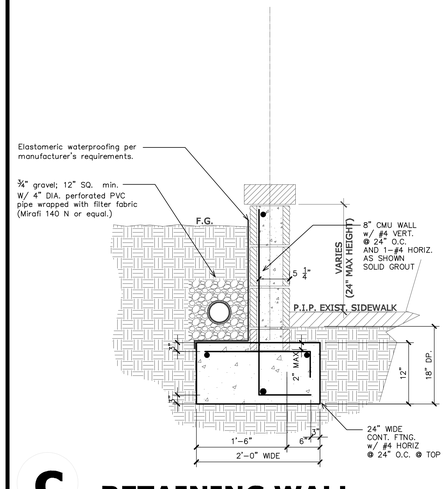
4 16" PILASTER

VOID

VOID



d RETAINING WALL



c RETAINING WALL

TOR010

REVISIONS

Pueblo Park

2252 Del Amo Boulevard, Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

ESI/FME, INC.
STRUCTURAL ENGINEERS
1800 E. 16TH ST. STE. B
SANTA ANA, CA 92701
PHONE: 714-835-2800
FAX: 714-835-2819

JN-D070 10-07-13

project manager:
R.R.W.
approved by:
R.R.W.
drawn by: D.W.
date:
04/02/14
scale:
NTS

SHEET
S1 of

Pueblo Park - City of Torrance

GENERAL NOTES

1. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT OR **ESI/FME, INC.** SHALL BE NOTIFIED OF ANY DISCREPANCY.
2. DIMENSIONING SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS. TYPICAL DETAILS AND GENERAL NOTES ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON PROJECT.
4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE 2010 EDITION OF THE CALIFORNIA BUILDING CODE, AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.
5. APPROVAL BY THE INSPECTOR DOES NOT MEAN APPROVAL OR ALLOWABLE FAILURE TO COMPLY WITH THE PLANS AND SPECIFICATIONS. ANY DESIGN WHICH FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE DESIGNER OR ENGINEER FOR INTERPRETATION OR CLARIFICATION.
6. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR PITS, TRENCHES, ROOF OPENINGS, DEPRESSIONS ETC. NOT SHOWN ON STRUCTURAL DRAWINGS.
7. VIBRATION EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY **ESI/FME, INC.**
8. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY **ESI/FME, INC.** THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE PRIOR TO THE APPLICATION OF ALL SHEAR WALLS, ROOF AND FLOOR DIAPHRAGMS AND FINISH MATERIALS. HE SHALL PROVIDE THE NECESSARY BRACING TO PROVIDE STABILITY PRIOR TO THE APPLICATION OF THE AFOREMENTIONED MATERIALS. OBSERVATION VISITS TO THE SITE BY **ESI/FME, INC.** SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
9. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, **ESI/FME, INC.** AND THE SOIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
10. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
11. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ON ANY OR ALL SHEETS MAY BE SUBJECT TO REVIEW. THIS REVIEW MAY RESULT IN CHANGES WHICH MAY BE MADE TO THE PLANS PRIOR TO THE ISSUANCE OF THE FINAL CONSTRUCTION SET WHICH WILL CONTAIN NO "BID SET" DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT CONSTRUED AS BEING THE COMPLETED OR FINAL DRAWINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
12. ALL GUARD RAILS AND HANDRAILS SHALL BE DESIGNED TO WITHSTAND A LATERAL POINT LOAD OF 200 POUNDS APPLIED HORIZONTALLY AT RIGHT ANGLES, AT ANY POINT TO TOP RAIL. A 50 PLF LOAD IS REQUIRED AT 3-STORY AND MULTI-FAMILY.
13. THESE PLANS ARE INTENDED SOLELY FOR THE USE OF THE OWNER FOR CONSTRUCTION AND ARE EXPRESSLY NOT INTENDED FOR USE IN MARKETING. EXTERIOR ELEVATIONS AND OTHER DETAILS ON THESE PLANS ARE ONLY A REPRESENTATION AND MAY VARY SIGNIFICANTLY FROM THE ACTUAL CONSTRUCTION.
14. SLAB ON GRADE REQUIREMENTS TO BE PER THE SOIL ENGINEERS RECOMENDATIONS SOLELY. THE SLAB ON GRADE IS A NON-STRUCTURAL ITEM AND THEREFORE HAS NOT BEEN DESIGNED BY THE STRUCTURAL DESIGN ENGINEER.
15. IN THE EVENT OF CONFLICT BETWEEN THE ARCHITECTURAL GENERAL NOTES AND THE STRUCTURAL GENERAL NOTES (SHT SGN), THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

REINFORCING STEEL

1. ALL REINFORCING SHALL BE ASTM A-615 GRADE 40 FOR #4 BARS AND SMALLER. ALL REINFORCING SHALL BE ASTM A-615 GRADE 60 FOR #5 BARS AND LARGER. WELDED WIRE FABRIC TO BE ASTM A-185, LAP 1-1/2 SPACES, 9" MIN. FOR STRUCTURAL SLABS ALL REINFORCING #5 AND LARGER TO BE ASTM A-615 GRADE 60
2. ALL BARS SHALL BE DEFORMED AS PER ASTM A615 / A615M.
3. ALL BARS SHALL BE CLEAN OF LOOSE FLAKY RUST, GREASE OR OR OTHER MATERIALS LIKELY TO IMPAIR BOND.
4. ALL BENDS SHALL BE MADE COLD.
5. SPLICING OF #3-#5 BARS SHALL HAVE A MIN. LAPPING OF 42 DIA. OR 32" MIN., WHICH EVER IS GREATER, IN ALL CONTINUOUS REINFORCEMENT OF FOOTINGS AND CONCRETE WALLS, EXCEPT AS NOTED ON PLANS. MASONRY REINFORCEMENT SHALL HAVE LAPPINGS OF 40 DIA. FOR GRADE 40 & 48 DIA. FOR GRADE 60 MIN. OR 2'-0", WHICH EVER IS GREATER.
6. ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE.
7. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AT LEAST EQUAL TO THE DIAMETER OF THE BARS. COVER SHALL BE AS FOLLOW:

	CONC.	MASONRY
A. POURED AGAINST EARTH	3"	2"
B. POURED AGAINST FORM BELOW GRADE	2"	2"
#6 AND LARGER	2"	2"
#5 AND SMALLER	1 1/2"	1 1/2"
C. FORMED SLABS	1"	1"
D. SLABS ON GRADE (FROM TOP OF SLAB)	1"	1"
E. COLUMNS AND BEAMS TO MAIN BARS	1 1/2"	2"
F. WALLS - EXPOSED TO WEATHER	1 1/2"	1 1/2"
NOT EXPOSED TO WEATHER, #11 AND SMALLER	3/4"	3/4"
#14 AND #18	1 1/2"	1 1/2"

CONCRETE

1. ALL CONCRETE SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
2. CONCRETE SHALL BE DESIGNED AND TESTED AS OUTLINED IN THE SPECS.
3. ALL CEMENT SHALL CONFORM TO ASTM C-150.
   PLEASE CROSS-REFERENCE EXPOSURE CLASS SHOWN BELOW WITH CORROSION TABLE FOR CONCRETE REQUIREMENTS

PROJECT EXPOSURE CLASS

CLASS	LOTS
S0	
C1	

4. FINE AND COARSE AGGREGATE SHALL CONFORM TO ASTM C-33 FOR STANDARD WEIGHT CONCRETE AND ASTM C-330 FOR LIGHT WEIGHT CONCRETE.
5. ALL AGGREGATE SHALL BE COMPARABLE TO "SAN GABRIEL VALLEY" AGGREGATE. THE SHRINKAGE SHALL BE AS PER ASTM C-157 WITH THE AVERAGE DRYING SHRINKAGE AT 28-DAYS NOT EXCEEDING 0.04%.
6. DRYPACK SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.
7. ANCHOR BOLTS, HOLDOWN BOLTS, DOWELS, INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
8. CONCRETE SHALL BE CURED BY KEEPING CONTINUOUSLY WET FOR 10-DAYS OR BY AN APPROVED CURING COMPOUND.
9. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR MISCELLANEOUS ITEMS TO BE CAST INTO CONCRETE AND FLOOR DEPRESSIONS, PITS, ETC.
10. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF EXPANSION JOINTS, SCORING, ETC. FOR CONCRETE WALKS AND SLABS.
11. ALL STRUCTURAL CONCRETE, TYPE II OR V — F'c = 2,500 PSI
    ALL SLAB-ON-GRADE, TYPE II OR V — F'c = 2,500 PSI
    ALL CONTINUOUS FOOTINGS AND PADS, TYPE II OR V — F'c = 2,500 PSI
    ALL CONCRETE SHALL REACH MINIMUM COMPRESSIVE STRENGTH 28 - DAYS.
12. ALL CONCRETE WITH F'c GREATER THAN 2,500 PSI SHALL HAVE SPECIAL INSPECTION PER SECTION 1704 OF THE 2010 CBC UNLESS NOTED OTHERWISE.
13. CONCRETE FOR SLAB ON GRADE SHALL HAVE A MAXIMUM OF 5 in. OF SLUMP PER ASTM C-143. 5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. CEMENT ASTM C-150 TYPE 1 OR 2 MIN.

STRUCT. STEEL

1. THE DEPICTIONS OF ALL MISCELLANEOUS FABRICATED METAL PRODUCTS SHOWN HEREON ARE NOT INTENDED TO BE USED AS FABRICATION SHOP DRAWINGS. THE METAL FABRICATOR SHALL BE RESPONSIBLE FOR ALL METAL FABRICATION DESIGNS IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL CODES AND POLICIES AS WELL AS THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND ANY OTHER INDUSTRY STANDARDS. ALL METAL FABRICATION DESIGNS ARE TO BE SUBMITTED TO AND APPROVED BY THE LOCAL BUILDING INSPECTION DEPARTMENT RESPONSIBLE FOR THE PROJECT PRIOR TO FABRICATION. ALL DIMENSIONS, DETAILS, ETC., SHOWN HEREON ARE INTENDED TO BE SCHEMATIC AND THE DESIGN IS TO BE VERIFIED WITH ALL AFFECTED SUBCONTRACTORS, FIELD CONDITIONS, AND THE REQUIREMENTS OF ALL GOVERNING AGENCIES AND FABRICATION STANDARDS. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.",AISC, CURRENT EDITION. STEEL TO CONFORM TO ASTM A-992.
2. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS, USING THE ELECTRIC SHIELDING PROCESS AND CONFORMING TO AWS SPECIFICATIONS, E70XX ELECTRODE.
3. ALL STRUCTURAL STEEL SHALL BE FABRICATED IN THE SHOP OF A LICENSED FABRICATOR AND SHOP DRAWINGS SHALL BE SUBMITTED TO **ESI/FME, INC.** THROUGH THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION. STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE GENERAL CONTRACTOR AND OWNER FOR REVIEW PRIOR TO FABRICATION. ANY PROPOSED DEVIATION, ADDITION OR QUESTIONS SHALL BE NOTED CONSPICUOUSLY AND CLEARLY ON THE SHOP DRAWINGS. STEEL FABRICATOR SHALL FIELD CHECK ALL DIMENSIONS PRIOR TO ERECTION TO PROVIDE FOR A PROPER FIT. ALL FIELD WELDING EXCEPT MINOR AND TACK WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN APPROVED WELDING INSPECTOR.
4. USE 3/4" ROUND MACHINE BOLTS, 13/16" ROUND HOLES, FOR ALL CONNECTIONS, UNLESS OTHERWISE SHOWN. ALL BOLTS SHALL CONFORM TO ASTM A-307 FOR UNFINISHED BOLTS, EXCEPT WHERE SPECIFICALLY NOTED AS HIGH STRENGTH BOLTS WHICH SHALL CONFORM TO ASTM A-325 OR ASTM A-490. HI TENSILE BOLTS SHALL BE THE FRICTION TYPE AND THERE SHALL BE NO PAINT, OIL, LACQUER, OR GALVANIZING BETWEEN THE CONTACT SURFACE. HIGH STRENGTH BOLTS REQUIRE SPECIAL INSPECTION PER SEC. 1701.5.6
5. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
6. PIPE COLUMNS SHALL CONFORM TO ASTM A-53-B (TYPE E OR S), U.N.O.
7. TUBE COLUMNS SHALL CONFORM TO ASTM A-501 OR A-500 GRADE B. U.N.O.
8. WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL PROVIDE 1/2" BOLT HOLES AT 4'-0" O/C FOR ATTACHMENT OF NAILERS. SEE ARCHITECTURAL DRAWINGS FOR FINISHES. (OR NELSON STUDS 1/2" X 3" CPL).
9. NONDESTRUCTIVE TESTING PER 2010 CBC SECTION 1703 ON STEEL MOMENT CONNECTION BETWEEN STEEL BEAM AND STEEL COLUMN, ALL FULL PENETRATION GROOVE WELDS CONTAINED IN JOINTS AND SPLICES SHALL BE TESTED 100 PERCENT EITHER BY ULTRASONIC TESTING OR BY RADIOGRAPHY.

FOUNDATION/SITEWORK

1. THE FOUNDATION DESIGN IS BASED ON THE FOUNDATION INVESTIGATION BY SOIL REPORT SUBMITTED:
   PER: NOTAVAILABLE
   PROJECT NO. :
   DATE :
2. THE ALLOWABLE SOIL BEARING VALUE IS 1000 PSF.
3. ALL SITE PREPARATION, EXCAVATION AND COMPACTION SHALL BE DONE UNDER THE SUPERVISION OF THE SOIL ENGINEER.
4. SEPARATE PERMITS SHALL BE OBTAINED FOR ALL FENCES AND WALLS, AS REQUIRED.
5. PROVIDE NON-EXPANSIVE FILL AS REQUIRED TO LEVEL PAD.
6. SURFACE WATER WILL DRAIN AWAY FROM BUILDING. DRAINAGE SHALL BE 2% FROM BUILDING TO SWALE LINE. SWALE SHALL DRAIN AT 1% (MIN.) FROM REAR OF BUILDING TO STREET.
7. THERE SHALL BE NO UTILITY TRENCH NEAR THE BUILDING FOUNDATION WHICH EXTEND DEEPER THAN A 45 DEGREE LINE PROJECTED DOWN AND AWAY FROM THE BOTTOM OUTSIDE CORNER OF ANY FOOTING.
8.

DESIGN LOADS:

VERTICAL	SEISMIC		WIND	
	SEISMIC DESIGN CATEGORY = D		WIND VELOCITY = 85 MPH	
	SITE CLASS = D		WIND EXPOSURE = C	
	Ss =	S_1 = .600	WIND PRESSURE qs =16.6 PSF	
	SDs =	SD1 = 0.600	SOILS	
			PASSIVE = 150 psf	SBP = 1000 psf
			ACTIVE = 40 psf	FRICTION = .4

MASONRY

1. ALL MASONRY WORK SHALL CONFORM TO THE LATEST EDITION THE CALIFORNIA BUILDING CODE.
2. CONCRETE BLOCK SHALL BE OF SIZES SHOWN ON ARCHITECTURAL DRAWINGS AND/OR CALLED FOR IN SPECS. AND CONFORM TO ASTM C90-05, GRADE "N" NORMALWEIGHT UNITS WITH MAXIMUM LINEAR SHRINKAGE OF 0.06 % f'm = 1500 PSI GROUTED REINFORCED CELLS.
3. MORTAR MIX SHALL CONSIST OF ONE PART PORTLAND CEMENT, VOLUME OF SAND NOT LESS THAT 2-1/2 AND NOT MORE THAN 3 TIMES THE SUM OF THE VOLUMES OF CEMENT AND LIME USED, AND 1/4 TO 1/2 PART HYDRATED LIME OR LIME PUTTY. MINIMUM COMPRESSIVE STRENGTH OF MORTAR TO BE f'm=1800PSI TYPE S OR M.
4. GROUT SHALL CONSIST OF ONE PART PORTLAND CEMENT, 3 PARTS SAND AND 2 PARTS PEA GRAVEL. COMPRESSIVE STRENGTH OF GROUT SHALL NOT BE LESS THAN f'g = 2000 PSI.
5. PROVIDE CLEANOUT OPENINGS AT BOTTOM OF ALL VERTICALLY GROUTED CELLS IF GROUT LIFT EXCEEDS 4'-0'.
6. ALL REINFORCING SHALL HAVE A MINIMUM COVERAGE OF 1/2" GROUT.
7. BOLTS SHALL BE GROUTED WITH 1" OF GROUT BETWEEN BOLT AND MASONRY.
8. NO PIPES OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.
9. DOWELS IN CONCRETE FOR MASONRY WALLS SHALL BE THE SAME SIZE AND SPACING AS MASONRY WALL REINFORCING.
10. ALL MASONRY, EXCEPT VENEER, SHALL BE REINFORCED GROUTED MASONRY, GROUT CELLS CONTAINING REINFORCING UNLESS NOTED OTHERWISE. GROUT SOLID ALL MASONRY RETAINING EARTH UP TO 6 in. ABOVE RETAINING WALL.
11. ALL VERTICAL REINFORCING IN MASONRY WALLS NOT RETAINING EARTH SHALL BE LOCATED IN THE CENTER OF THE WALL, U.N.O.
12. REINFORCING SHALL BE SECURELY HELD AND BRACED IN PLACE TO PREVENT MOVEMENT WHILE PLACING MASONRY.
13. THE MINIMUM QUALTIY ASSURANCE PROGRAM FOR MASONRY IN NON-ESSENTIAL FACILATIES SHALL COMPLY WITH TABLE 1.18.2 OF TMS 402-08/ACI 530-08/ASCE 5-08.. THE MINIMUM QUALTIY ASSURANCE PROGRAM FOR MASONRY IN ESSENTIAL FACILITIES SHALL COMPLY WITH WITH TABLE 1.18.3 OF TMS 402-08/ACI 530-08/ASCE 5-08..

TOR010

REGISTERED PROFESSIONAL ENGINEER
RAMON R. WONG II
No. S2345
STRUCTURAL
STATE OF CALIFORNIA
01/09/43

REVISIONS

Pueblo Park
2252 Del Amo Boulevard, Torrance, California
Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781.7559

JN.-D070 10-07-13

ESI/FME,INC.
STRUCTURAL ENGINEERS
1800 E. 16TH ST. STE. B
SANTA ANA, CA 92701
PHONE: 714-835-2800
FAX: 714-835-2819

project manager: R.R.W.
approved by: R.R.W.
drawn by: D.W.
date: 04/02/14
scale: NTS

SHEET
SGN of

Pueblo Park - City of Torrance

E S I / F M E

INC.

STRUCTURAL ENGINEERS

PROJECT: Structural calculations for LAND CONCERN on **"PUEBLO PARK "** to be built at Torrance, California

PUEBLO PARK

2252 Del Amo Blvd., Torrance, CA.

(PER 2010 CBC)

Date: Oct. 7th, 2013.

Revisions:

Client: LAND CONCERN
Landscape Architecture

Client Job No.

Shipped: OCT 0 9 2013

Job No. 1013 - D070

1800 E. 16th Street, Unit B, Santa Ana, CA 92701 / Tel: (714) 835-2800 / Fax: (714) 835-2819

ESI / FME Inc.
STRUCTURAL ENGINEERS

Date: 10/7/2013
Job #: D070

Client: Land Concern Landscape Arch'

Project Name: 2252 Del Amo Boulevard, Torrance, California
Plan #: PUEBLO PARK

Soils Information:
Soils Report: Assumed
P.N.
Date:
f'c = 2500 **Type II or V**
SBP: 1000 psf

Passive: 150 pcf
Active: 40 pcf
Friction: 0.25
Sulfates: negligible
Site Class: D

Seismic: SDC D
S1= 0.6
R= 1.25
I = 1

Cs= .8 S1 / (R/I) = 0.384

Wind: 85 MPH / EXPOSURE C
Kd = 0.85 Cf = 1.46
Kzt = 1.00 G = 0.85
Kz = 0.85 I = 1
V = 85 MPH (3-sec)

$qz = .00256\ Kz\ Kzt\ Kd\ V^2\ I$
qz = 13.36 psf

F = qz G Cf
F = 16.58 psf

STANDARD SPECIFICATIONS FOR STRUCTURAL CALCULATIONS

1. Sketches of details in calculations are not to scale and may not represent true conditions on plans. Architect or designer is responsible for drawing details in plans which represent true framing conditions and scale. Enclosed details are intended to complement standard construction practice to be used by experienced and qualified contractors.

2. The structural calculations included here are for the analysis and design of primary structural system. The attachment of non-structural elements is the responsibility of the architect or designer, unless specifically shown otherwise.

3. The drawings, calculations, specifications and reproductions are instruments of service to be used only for the specific project covered by agreement and cover sheet. Any other use is solely prohibited.

4. All changes made to the subject project shall be submitted to E S I / F M E, Inc. in writing for their review and comment. These calculations are meant to be used by a design professional, omissions are intended.

5.

PROJECT DESCRIPTION:

Job Name **Pueblo Park**
City **Torrance, California**
Client **Land Concern Landscape Architecture**

PROJECT ENGINEER: **R.R.W.**

CALCS BY:	DATE: **10/7/2013**
ASSOC. CHECK:	DATE:
BACK CHECK:	DATE:
ROOF TRUSS Rev.:	DATE:
FLR. TRUSS Rev.:	DATE:
P/T FOUND. Rev.:	DATE:
PLAN CHECK:	DATE:

REVISIONS:

A	SHTS:	DATE:
		Init.:
B	SHTS:	DATE:
		Init.:
C	SHTS:	DATE:
		Init.:
D	SHTS:	DATE:
		Init.:
E	SHTS:	DATE:
		Init.:
F	SHTS:	DATE:
		Init.:
G	SHTS:	DATE:
		Init.:

E S I / F M E, Inc. - *Structural Engineers*
(This signature is to be a wet signature, not a copy.)
APPROVED BY:

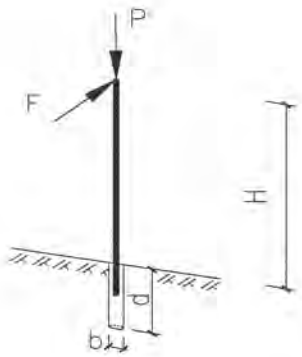
REGISTERED PROFESSIONAL ENGINEER
RAMON R. WONG II
No. S2345
STRUCTURAL
STATE OF CALIFORNIA

DATE: OCT 09 2013

Cantilever Column & Footing Design Based on AISC 360-10, ACI 318-11, and 2012 IBC 1807.3

INPUT DATA & DESIGN SUMMARY

COLUMN SECTION (Tube, Pipe, or WF)		HSS3.500X0.250		Pipe
COLUMN YIELD STRESS	F_y =	30	ksi	
CANTILEVER HEIGHT	H =	5.5	ft	
COLUMN TOP LATERAL LOAD (Strong Axis Bending only)	F =	0.5818	kips, ASD	
COLUMN TOP GRAVITY LOAD	P =	0.8	kips, ASD	
DIAMETER OF POLE FOOTING	b =	1.33	ft	
ALLOW SOIL PRESSURE	Q_a =	1	ksf	
LATERAL SOIL CAPACITY	P_P =	0.2	ksf / ft	
RESTRAINED @ GRADE ?(1=yes,0=no)		0	No	



Use 1.33 ft dia x 4.29 ft deep footing unrestrained @ ground level

THE DESIGN IS ADEQUATE.

ANALYSIS

CHECK COMBINED COMPRESSION AND BENDING CAPACITY OF COLUMN (AISC 360-10, H1)

$$\begin{cases} \dfrac{P_r}{P_c}+\dfrac{8}{9}\left(\dfrac{M_{rx}}{M_{cx}}+\dfrac{M_{ry}}{M_{cy}}\right), & for \ \dfrac{P_r}{P_c}\geq 0.2 \\ \dfrac{P_r}{2P_c}+\left(\dfrac{M_{rx}}{M_{cx}}+\dfrac{M_{ry}}{M_{cy}}\right), & for \ \dfrac{P_r}{P_c}<0.2 \end{cases} = 0.87 \quad < \quad 1.0 \quad \textbf{[Satisfactory]}$$

Where

P_r =	0.80	kips	
M_{rx} =	3.20	ft-kips	
M_{ry} =	0	ft-kips	
KL_y =	11	ft, weak axis unbraced axial length	
$P_c = P_n / \Omega_c$ =	41 / 1.67 = 24.30	kips, (AISC 360-10 Chapter E)	
	> P_r	**[Satisfactory]**	
$M_{cx} = M_n / \Omega_b$ =	6.23 / 1.67 = 3.73	ft-kips, (AISC 360-10 Chapter F)	
	> M_{rx}	**[Satisfactory]**	
$M_{cy} = M_n / \Omega_b$ =	6.23 / 1.67 = 3.73	ft-kips, (AISC 360-10 Chapter F)	
	> M_{ry}	**[Satisfactory]**	

DESIGN POLE FOOTING (2012 IBC 1807.3)

By trials, use pole depth, d = 4.290 ft

Lateral bearing @ bottom, $S_3 = 2 P_P \ Min(d, 12') =$ 1.72 ksf

Lateral bearing @ $d/3$, $S_1 = 2 P_P \ Min(d/3, 12') =$ 0.57 ksf

Require Depth is given by

$$d = \begin{cases} \dfrac{A}{2}\left[1+\sqrt{1+\dfrac{4.36h}{A}}\right] & for \ nonconstrained \\ \sqrt{\dfrac{4.25Ph}{bS_3}} & for \ constrained \end{cases} = 4.290 \ \text{ft} \quad \textbf{[Satisfactory]}$$

Where

$P = F$ =	0.58	kips
$A = 2.34 P / (b S_1)$ =	1.79	
$h = M_{max} / F$ =	5.50	ft

CHECK VERTICAL SOIL BEARING CAPACITY (ACI, Sec. 15.2.2)

$q_{soil} = P / (\pi b^2 / 4)$ = 0.58 ksf, (net weight of pole footing included.)

< Q_a **[Satisfactory]**

CHECK STRONG AXIS LATERAL DEFLECTION

$$\Delta = \frac{FH^3}{3EI} = 0.60 \ \text{in} \quad < \quad 2H/120 = 1.10 \ \text{in} \quad \textbf{[Satisfactory]}$$

ESI/FME, Inc, - Structural Engineer
1800 East 16th Street, Suite B
Santa Ana, CA, 92701
ph.: (714) 835-2800

Project Title: D070 - PUEBLO PARK
Engineer: Ramon R. Wong, S.E.
Project Descr: Landscape Improvement Plans
Project ID: 1013-D070

Printed: 7 OCT 2013, 4:45PM

Masonry Column

File = \\esi-fme-1\eng\Files\D070\d070-cmu.ec6
ENERCALC, INC. 1983-2013, Build:6.13.8.31, Ver:6.13.8.31

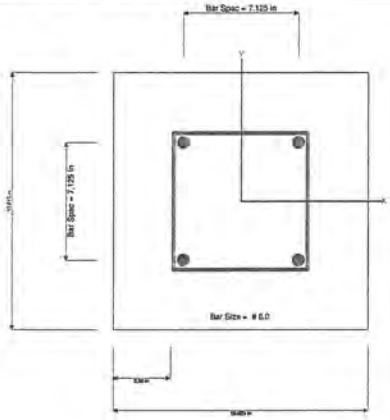
Lic. # : KW-06000077 — Licensee : esi/fme inc.

Description : D070 - PUEBLO PARK @ 2252 Del Amo Blvd., Torrance, CA. - 16" CMU PILASTER

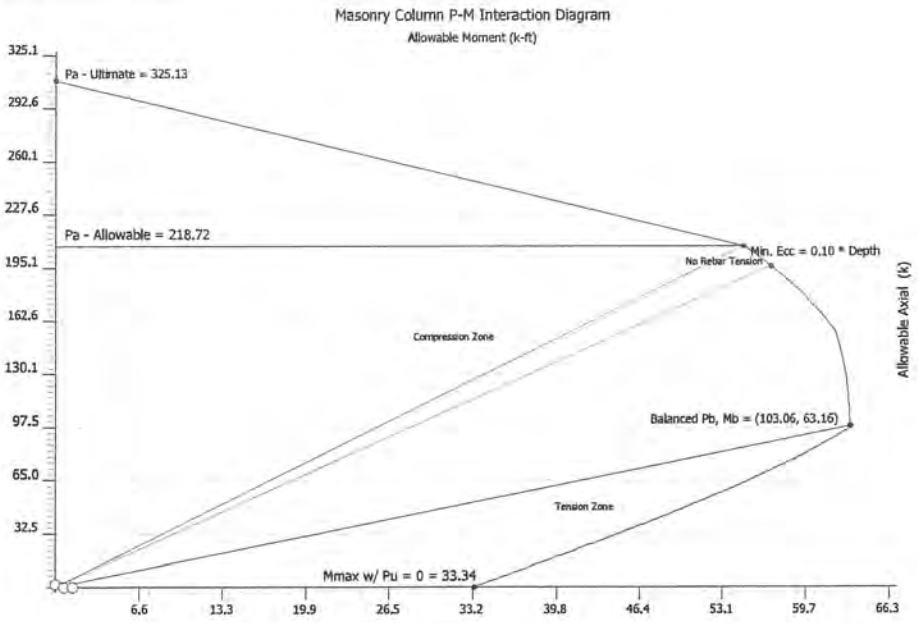
Maximum Deflections for Load Combinations - Unfactored Loads

Load Combination	Max. Y-Y Deflection	Distance
W Only	0.0027 in	7.000 ft
E Only	0.0103 in	6.953 ft

Cross Section



Interaction Diagram



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Description : D070 - PUEBLO PARK @ 2252 Del Amo Blvd., Torrance, CA. - 16" CMU PILASTER

Code References

Calculations per ACI 530-08, IBC 2009, CBC 2010, ASCE 7-05
Load Combinations Used : ASCE 7-05

General Information

Material Properties

F'm	=	1,500.0 psi
Fr - Rupture	=	75.0 psi
Em = f'm *	=	900.0
Column Density	=	130.0 pcf
Rebar Grade	=	Grade 40
Fy - Yield	=	40,000.0 psi
Fs - Allowable	=	20,000.0 psi
E - Rebar	=	29,000.0 ksi
Load Combination =		ASCE 7-05

Brace condition for deflection (buckling) along columns :

Column Data

Column width along X-X	=	15.625 in
Column depth along Y-Y	=	15.625 in
Longitudinal Bar Size	=	# 6.0
Bars per side at +Y & -Y	=	2
Bars per side at +X & -X	=	2
Cover from ties	=	3.50 in
Actual Edge to Bar Center	=	4.25 in

Analysis Settings

Analysis Method	=	**Strength Design**
φ factor for Strength Design	=	0.90
End Fixity Condition	=	Top Free, Bottom Fixed
Overall Column Height	=	7.0 ft
Construction Type		Solid Grouted Hollow Concrete Masonry
Tie Bar Size	=	# 3
Tie Bar Spacing	=	8.0 in

X-X (width) axis : Unbraced Length for X-X Axis buckling = 10 ft, K = 2.1
Y-Y (depth) axis : Unbraced Length for X-X Axis buckling = 10 ft, K = 2.1

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 1,542.83 lbs * Dead Load Factor
AXIAL LOADS . . .
BENDING LOADS . . .
Lat. Uniform Load creating My-y, W = 0.0350 k/ft
Lat. Uniform Load creating My-y, E = 0.1350 k/ft

DESIGN SUMMARY

Bending & Shear Check Results

PASS **Maximum Bending Stress Ratio** = **0.041** : 1
Load Combination +1.20D+0.50Lr+0.50L+1.60W
Location of max.above base 0.000 ft
At maximum location values are . . .
Pu 0.000 k
0.9 * Pn 0.425 k
Mu-x -1.372 k-ft
0.9 * Mn-x : 33.337 k-ft

PASS **Reinforcing Area Check** *(ACI 530-08, Sec 3.3.4.*
As : Actual Reinforcement 1.760
Min: 0.0025 * An 0.610
Max: 0.04 * An 9.766

Dimensional Checks
Min. Width/Depth >= 8" *(ACI 530-08, Sec 3.4.4.*
PASS Overall Height / Min Dim <= 30 *(ACI 530-08, Sec 3.4.4.*

Maximum SERVICE Load Reactions . .
Top along X-X 0.000 k
Bottom along X-X 0.945 k

Maximum SERVICE Load Deflections . . .
Along x-x 0.010 in at 7.000 ft above base
for load combination : E Only

Compressive Strength 218.776 k *(ACI 530-08, Sec 3.3.4.*
Pa = 0.80 [0.80 f'm (An - Ast) + FyAst) * [1-(h/(140*r))^2]

PASS **Check Column Ties** *(ACI 530-08, Sec 2.1.6.*
Min. Tie Dia. = 1/4", # 3 bar provided
Max Tie Spacing = 12.00 in, Provided = 8.00 in

Load Combination Results

Load Combination	Maximum Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Axial Load: Actual	Allow	Maximum Moments: Actual	Allow
+1.40D	0.009580	PASS	0.04698 ft	2.160 k	218.723 k	0.0 k-ft	54.681 k-ft
+1.20D+0.50Lr+1.60L+1.60H	0.008212	PASS	0.04698 ft	1.851 k	218.723 k	0.0 k-ft	54.681 k-ft
+1.20D+1.60Lr+0.80W	0.02058	PASS	0.0 ft	0.0 k	0.4253 k	0.6860 k-ft	33.337 k-ft
+1.20D+0.50Lr+0.50L+1.60W	0.04115	PASS	0.0 ft	0.0 k	0.4253 k	1.372 k-ft	33.337 k-ft

Maximum Reactions - Unfactored

Note: Only non-zero reactions are listed.

Load Combination	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base
W Only	0.245 k	k	k
E Only	0.945 k	k	k

ESI/FME, Inc, - Structural Engineer
1800 East 16th Street, Suite B
Santa Ana, CA. 92701
ph.: (714) 835-2800

Project Title: D070 - PUEBLO PARK
Engineer: Ramon R. Wong, S.E.
Project Descr: Landscape Improvement Plans
Project ID: 1013-D070

Printed: 7 OCT 2013, 4:43PM

Masonry Column

File = \\esi-fme-1\eng\Files\D070\d070-cmu.ec6
ENERCALC, INC. 1983-2013, Build:6.13.8.31, Ver:6.13.8.31

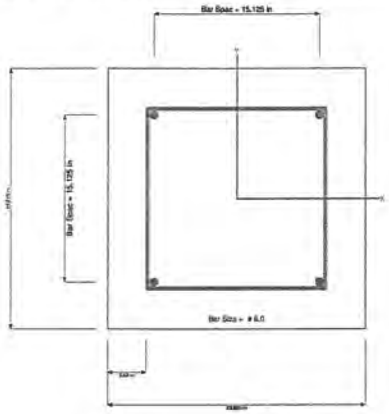
Lic. # : KW-06000077 — Licensee : esi/fme inc.

Description : D070 - PUEBLO PARK @ 2252 Del Amo Blvd., Torrance, CA. - 24" CMU PILASTER

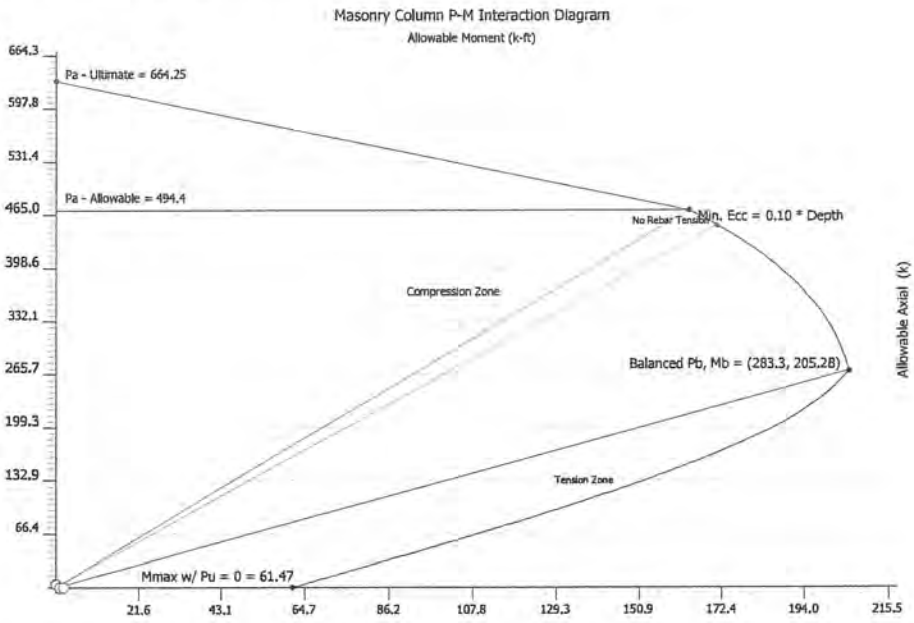
Maximum Deflections for Load Combinations - Unfactored Loads

Load Combination	Max. Y-Y Deflection	Distance
W Only	0.0007 in	7.000 ft
E Only	0.0044 in	6.953 ft

Cross Section



Interaction Diagram



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Masonry Column

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Code References

Calculations per ACI 530-08, IBC 2009, CBC 2010, ASCE 7-05
Load Combinations Used : ASCE 7-05

General Information

Material Properties

F'm	=	1,500.0 psi
Fr - Rupture	=	75.0 psi
Em = f'm *	=	900.0
Column Density	=	130.0 pcf
Rebar Grade	=	Grade 40
Fy - Yield	=	40,000.0 psi
Fs - Allowable	=	20,000.0 psi
E - Rebar	=	29,000.0 ksi
Load Combination =		ASCE 7-05

Brace condition for deflection (buckling) along columns :

Column Data

Column width along X-X	=	23.625 in
Column depth along Y-Y	=	23.625 in
Longitudinal Bar Size	=	# 6.0
Bars per side at +Y & -Y	=	2
Bars per side at +X & -X	=	2
Cover from ties	=	3.50 in
Actual Edge to Bar Center	=	4.25 in

Analysis Settings

Analysis Method	=	Strength Design
φ factor for Strength Design	=	0.90
End Fixity Condition	=	Top Free, Bottom Fixed
Overall Column Height	=	7.0 ft
Construction Type		Solid Grouted Hollow Concrete Masonry
Tie Bar Size	=	# 3
Tie Bar Spacing	=	8.0 in

X-X (width) axis : Unbraced Length for X-X Axis buckling = 10 ft, K = 2.1
Y-Y (depth) axis : Unbraced Length for X-X Axis buckling = 10 ft, K = 2.1

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 3,527.14 lbs * Dead Load Factor
AXIAL LOADS . . .
BENDING LOADS . . .
Lat. Uniform Load creating My-y, W = 0.050 k/ft
Lat. Uniform Load creating My-y, E = 0.30 k/ft

DESIGN SUMMARY

Bending & Shear Check Results

PASS **Maximum Bending Stress Ratio** = **0.032** : 1
Load Combination +1.20D+0.50Lr+0.50L+1.60W
Location of max.above base 0.000 ft
At maximum location values are . . .
Pu 0.000 k
0.9 * Pn 0.322 k
Mu-x -1.960 k-ft
0.9 * Mn-x : 61.469 k-ft

PASS **Reinforcing Area Check** *(ACI 530-08, Sec 3.3.4.*
As : Actual Reinforcement 1.760
Min: 0.0025 * An 1.395
Max: 0.04 * An 22.326

Dimensional Checks
Min. Width/Depth >= 8" *(ACI 530-08, Sec 3.4.4.*
PASS Overall Height / Min Dim <= 30 *(ACI 530-08, Sec 3.4.4.*

Maximum SERVICE Load Reactions . .
Top along X-X 0.000 k
Bottom along X-X 2.100 k

Maximum SERVICE Load Deflections . . .
Along x-x 0.004 in at 7.000 ft above base
for load combination : E Only

Compressive Strength 494.467 k *(ACI 530-08, Sec 3.3.4.*
Pa = 0.80 [0.80 f'm (An - Ast) + FyAst) * [1-(h/(140*r))^2]

PASS **Check Column Ties** *(ACI 530-08, Sec 2.1.6.*
Min. Tie Dia. = 1/4", # 3 bar provided
Max Tie Spacing = 12.00 in, Provided = 8.00 in

Load Combination Results

Load Combination	Maximum Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Axial Load: Actual	Allow	Maximum Moments: Actual	Allow
+1.40D	0.009481	PASS	0.04698 ft	4.938 k	494.399 k	0.0 k-ft	163.770 k-ft
+1.20D+0.50Lr+1.60L+1.60H	0.008127	PASS	0.04698 ft	4.233 k	494.399 k	0.0 k-ft	163.770 k-ft
+1.20D+1.60Lr+0.80W	0.01594	PASS	0.0 ft	0.0 k	0.3217 k	0.980 k-ft	61.469 k-ft
+1.20D+0.50Lr+0.50L+1.60W	0.03189	PASS	0.0 ft	0.0 k	0.3217 k	1.960 k-ft	61.469 k-ft

Maximum Reactions - Unfactored

Note: Only non-zero reactions are listed.

Load Combination	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base
W Only	0.350 k	k	k
E Only	2.100 k	k	k

ESI/FME, Inc, - Structural Engineer
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Project Title: D070 - PUEBLO PARK
Engineer: Ramon R. Wong, S.E.
Project Descr: Landscape Improvement Plans
Project ID: 1013-D070

Printed: 7 OCT 2013, 6:28PM

General Footing

File = \\Esi-fme-1\eng\Files\D070\d070-cmu.ec5
ENERCALC, INC. 1983-2013, Build:6.13.8.31, Ver:6.13.8.31

Lic. # : KW-06000077 — Licensee : esi/fme inc.

Description : D070 - PUEBLO PARK @ 2252 Del Blvd., Torrance, CA FOUNDATION PAD

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.6890	Soil Bearing	0.6890 ksf	1.0 ksf	+D-0.70E+H about Z-Z axis
PASS	1.578	Overturning - X-X	3.850 k-ft	6.075 k-ft	0.6D+0.7E
PASS	1.578	Overturning - Z-Z	3.850 k-ft	6.075 k-ft	0.6D+0.7E
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	n/a	Sliding - Z-Z	0.0 k	0.0 k	No Sliding
PASS	n/a	Uplift	0.0 k	0.0 k	No Uplift
PASS	0.03727	Z Flexure (+X)	0.6425 k-ft	17.240 k-ft	+1.20D+0.50L+0.20S+E
PASS	0.03727	Z Flexure (-X)	0.6425 k-ft	17.240 k-ft	+1.20D+0.50L+0.20S-1.0E
PASS	0.03727	X Flexure (+Z)	0.6425 k-ft	17.240 k-ft	+1.20D+0.50L+0.20S+E
PASS	0.03727	X Flexure (-Z)	0.6425 k-ft	17.240 k-ft	+1.20D+0.50L+0.20S-1.0E
PASS	n/a	1-way Shear (+X)	0.0 psi	85.0 psi	n/a
PASS	0.0	1-way Shear (-X)	0.0 psi	0.0 psi	n/a
PASS	n/a	1-way Shear (+Z)	0.0 psi	85.0 psi	n/a
PASS	n/a	1-way Shear (-Z)	0.0 psi	85.0 psi	n/a
PASS	n/a	2-way Punching	2.462 psi	85.0 psi	+1.40D

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc	Zecc	Actual Soil Bearing Stress +Z	Actual Soil Bearing Stress +Z	Actual Soil Bearing Stress -X	Actual Soil Bearing Stress -X	Actual / Allowable Ratio

Overturning Stability

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status

Footing Has NO Overturning

Sliding Stability

All units k

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Sliding SafetyRatio	Status

Footing Has NO Sliding

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Which Side ?	Tension @ Bot or Top ?	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	0.4808	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.40D	0.4808	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50Lr+1.60L+1.60H	0.4121	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50Lr+1.60L+1.60H	0.4121	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+0.50S+1.60H	0.4121	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+0.50S+1.60H	0.4121	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+1.60Lr+0.50L	0.4121	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+1.60Lr+0.50L	0.4121	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+1.60Lr+0.50L+0.80W	0.4556	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+1.60Lr+0.50L+0.80W	0.3685	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+1.60Lr+0.50L-0.80W	0.3685	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+1.60Lr+0.50L-0.80W	0.4556	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+1.60S	0.4121	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+1.60S	0.4121	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+1.60S+0.80W	0.4556	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+1.60S+0.80W	0.3685	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+1.60S-0.80W	0.3685	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+1.60S-0.80W	0.4556	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50Lr+0.50L+1.60W	0.4992	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50Lr+0.50L+1.60W	0.3249	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50Lr+0.50L-1.60W	0.3249	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50Lr+0.50L-1.60W	0.4992	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+0.50S+1.60W	0.4992	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+0.50S+1.60W	0.3249	-Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK
X-X, +1.20D+0.50L+0.50S-1.60W	0.3249	+Z	Bottom	0.3888	Min Temp %	0.3911	17.240	OK

ESI/FME, Inc, - Structural Engineer
1800 East 16th Street, Suite B
Santa Ana, CA. 92701
ph.: (714) 835-2800

Project Title: D070 - PUEBLO PARK
Engineer: Ramon R. Wong, S.E.
Project Descr: Landscape Improvement Plans
Project ID: 1013-D070

Printed: 7 OCT 2013, 6:28PM

General Footing

File = \\Esi-fme-1\eng\Files\D070\d070-cmu.ec6
ENERCALC, INC. 1983-2013, Build:6.13.8.31, Ver:6.13.8.31

Lic. # : KW-06000077 — Licensee : esi/fme inc.

Description : D070 - PUEBLO PARK @ 2252 Del Blvd., Torrance, CA FOUNDATION PAD

Code References

Calculations per ACI 318-08, IBC 2009, CBC 2010, ASCE 7-05
Load Combinations Used : 2006 IBC & ASCE 7-05

General Information

Material Properties

f'c : Concrete 28 day strength	=	2.50 ksi
fy : Rebar Yield	=	40.0 ksi
Ec : Concrete Elastic Modulus	=	3,122.0 ksi
Concrete Density	=	145.0 pcf
φ Values Flexure	=	0.90
Shear	=	0.850

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.50 : 1
Min. Sliding Safety Factor	=	1.50 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	No
Add Pedestal Wt for Soil Pressure	:	No
Use Pedestal wt for stability, mom & shear	:	No

Soil Design Values

Allowable Soil Bearing	=	1.0 ksf
Increase Bearing By Footing Weight	=	No
Soil Passive Resistance (for Sliding)	=	250.0 pcf
Soil/Concrete Friction Coeff.	=	0.30

Increases based on footing Depth

Footing base depth below soil surface	=	ft
Allowable pressure increase per foot of dept	=	ksf
when footing base is below	=	ft

Increases based on footing plan dimension

Allowable pressure increase per foot of dep	=	ksf
when maximum length or width is greater	=	ft

Dimensions

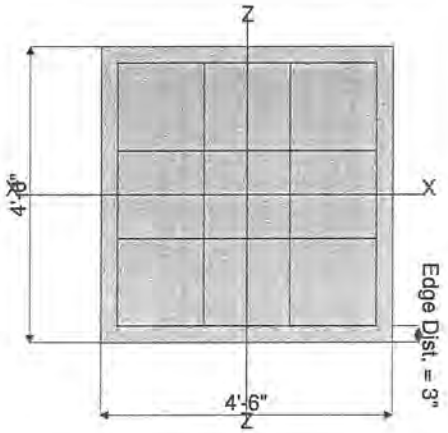
Width parallel to X-X Axis	=	4.50 ft
Length parallel to Z-Z Axis	=	4.50 ft
Footing Thicknes	=	18.0 in

Pedestal dimensions...

px : parallel to X-X Axis	=	24.0 in
pz : parallel to Z-Z Axis	=	24.0 in
Height	=	in

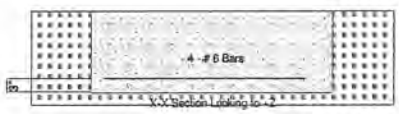
Rebar Centerline to Edge of Concrete..

at Bottom of footing	=	3.0 in



Reinforcing

Bars parallel to X-X Axis		
Number of Bars	=	4.0
Reinforcing Bar Size	=	# 6
Bars parallel to Z-Z Axis		
Number of Bars	=	4.0
Reinforcing Bar Size	=	# 6



Bandwidth Distribution Check (ACI 15.4.4.2)

Direction Requiring Closer Separation	n/a
# Bars required within zone	n/a
# Bars required on each side of zone	n/a

Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	4.50							k
OB : Overburden	=								ksf
M-xx	=					1.30	5.50		k-ft
M-zz	=					1.30	5.50		k-ft
V-x	=								k
V-z	=								k

ESI/FME, INC.
STRUCTURAL ENGINEERS
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Santa Ana, CA 92701
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Title : **PUEBLO PARK @ 2252 Del Amo Blvd.** Page: _____
Job # : **1013-D070** Dsgnr: **RRW** Date: 8 OCT 2013
Description....
SIGNAGE WALL

This Wall in File: e:\files\d070\freestandingcmu.rp5

Cantilevered Retaining Wall Design

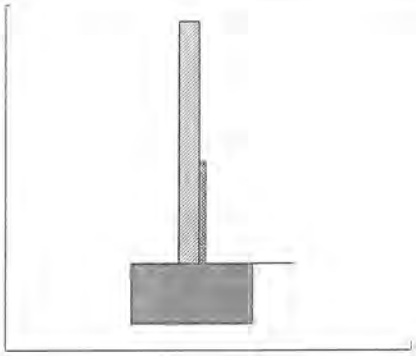
Code: CBC 2010,ACI 318-08,ACI 530-08

Criteria

Retained Height	=	0.00 ft
Wall height above soil	=	6.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	0.00 in
Water height over heel	=	0.0 ft

Soil Data

Allow Soil Bearing	=	2,000.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	32.0 psf/ft
	=	
Passive Pressure	=	250.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Footing||Soil Friction	=	0.400
Soil height to ignore for passive pressure	=	12.00 in



Surcharge Loads

Surcharge Over Heel	=	0.0 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
Used for Sliding & Overturning		

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
The above lateral load has been increased by a factor of		1.00
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Stem Weight Seismic Load

F_p / W_p Weight Multiplier = 0.384 g

Added seismic base force 109.2 lbs

Design Summary

Wall Stability Ratios

Overturning	=	3.28 OK
Sliding	=	4.03 OK
Total Bearing Load	=	1,073 lbs
...resultant ecc.	=	5.62 in
Soil Pressure @ Toe	=	692 psf OK
Soil Pressure @ Heel	=	23 psf OK
Allowable	=	2,000 psf
Soil Pressure Less Than Allowable		
ACI Factored @ Toe	=	831 psf
ACI Factored @ Heel	=	27 psf
Footing Shear @ Toe	=	2.7 psi OK
Footing Shear @ Heel	=	0.5 psi OK
Allowable	=	75.0 psi

Sliding Calcs (Vertical Component NOT Used)

Lateral Sliding Force	=	145.2 lbs
less 100% Passive Force	= -	156.3 lbs
less 100% Friction Force	= -	429.2 lbs
Added Force Req'd	=	0.0 lbs OK
....for 1.5 : 1 Stability	=	0.0 lbs OK

Load Factors

Building Code	CBC 2010,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

		Top Stem	2nd
		Stem OK	Stem OK
Design Height Above Ftg	ft =	2.50	0.00
Wall Material Above "Ht"	=	Masonry	Masonry
Thickness	=	6.00	8.00
Rebar Size	=	# 4	# 4
Rebar Spacing	=	32.00	32.00
Rebar Placed at	=	Center	Center
Design Data			
fb/FB + fa/Fa	=	**0.259**	**0.702**
Total Force @ Section	lbs =	55.7	109.2
Moment....Actual	ft-# =	97.4	303.5
Moment.....Allowable	ft-# =	375.7	432.2
Shear.....Actual	psi =	1.7	2.4
Shear.....Allowable	psi =	38.7	38.7
Wall Weight	psf =	58.0	78.0
Rebar Depth 'd'	in =	2.75	3.75
LAP SPLICE IF ABOVE	in =	24.00	24.00
LAP SPLICE IF BELOW	in =	24.00	
HOOK EMBED INTO FTG	in =		6.00
Masonry Data			
f'm	psi =	1,500	1,500
Fs	psi =	24,000	20,000
Solid Grouting	=	Yes	Yes
Use Half Stresses	=	n/a	No
Modular Ratio 'n'	=	21.48	21.48
Short Term Factor	=	1.000	1.000
Equiv. Solid Thick.	in =	5.60	7.60
Masonry Block Type	=		
Masonry Design Method	=	ASD	
Concrete Data			
f'c	psi =		
Fy	psi =		

ESI/FME, INC.
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Title : **PUEBLO PARK @ 2252 Del Amo Blvd.** Page: _____
Job # : **1013-D070** Dsgnr: **RRW** Date: 8 OCT 2013
Description....
SIGNAGE WALL

This Wall in File: e:\files\d070\freestandingcmu.rp5

RetainPro 10 (c) 1987-2011, Build 10.12.1.9
License : KW-06053839
License To : ESI/FME, INC.

Cantilevered Retaining Wall Design

Code: CBC 2010,ACI 318-08,ACI 530-08

Footing Dimensions & Strengths

Toe Width	=	1.17 ft
Heel Width	=	1.83
Total Footing Width	=	3.00
Footing Thickness	=	18.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 2,500 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel
Factored Pressure	=	831	27 psf
Mu' : Upward	=	633	130 ft-#
Mu' : Downward	=	240	0 ft-#
Mu: Design	=	393	-130 ft-#
Actual 1-Way Shear	=	2.71	0.54 psi
Allow 1-Way Shear	=	75.00	75.00 psi

Toe Reinforcing = # 4 @ 18.00 in
Heel Reinforcing = None Spec'd
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: Not Req'd = Mu<S*Fr

Summary of Overturning & Resisting Forces & Moments

		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-#			.....RESISTING..... Force lbs	Distance ft	Moment ft-#
Heel Active Pressure	=	36.0	0.50	18.0	Soil Over Heel	=	0.0	2.42	0.0
Surcharge over Heel	=				Sloped Soil Over Heel	=			
Surcharge Over Toe	=				Surcharge Over Heel	=			
Adjacent Footing Load	=				Adjacent Footing Load	=			
Added Lateral Load	=				Axial Dead Load on Stem	=			
Load @ Stem Above Soil	=				* Axial Live Load on Stem	=			
	=				Soil Over Toe	=	0.0		
Seismic Stem Self Wt		109.2	4.28	467.2	Surcharge Over Toe	=			
Total		145.2	**O.T.M.**	485.2	Stem Weight(s)	=	398.0	1.46	580.1
	=		=		Earth @ Stem Transitions	=			
Resisting/Overturning Ratio		=	**3.28**		Footing Weight	=	675.0	1.50	1,012.5
Vertical Loads used for Soil Pressure	=	1,073.0 lbs			Key Weight	=		2.50	
					Vert. Component	=			
					Total	=	1,073.0 lbs	**R.M.=**	1,592.6

If seismic included the min. OTM and sliding ratios may be 1.1 per IBC '09, 1807.2.3.

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

DESIGNER NOTES:

ESI/FME, INC.
STRUCTURAL ENGINEERS
1800 E. 16th Street, Unit 8
Santa Ana, CA 92701
PHONE: 714-835-2800 FAX: 714-835-2819

Title : **PUEBLO PARK @ 2252 Del Amo Blvd.** Page: _____
Job # : **1013-D070** Dsgnr: **RRW** Date: 8 OCT 2013
Description....
RETAINING WALL

This Wall in File: e:\files\d070\freestandingcmu.rp5

Cantilevered Retaining Wall Design

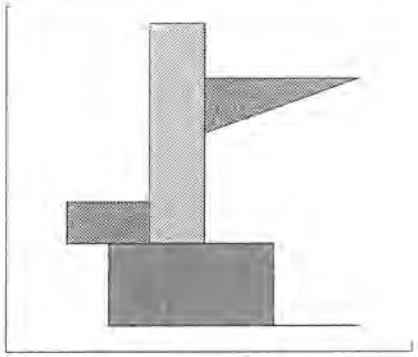
Code: CBC 2010,ACI 318-08,ACI 530-08

Criteria

Retained Height	=	2.00 ft
Wall height above soil	=	0.67 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	6.00 in
Water height over heel	=	0.0 ft

Soil Data

Allow Soil Bearing	=	1,000.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	40.0 psf/ft
	=	
Passive Pressure	=	150.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Footing||Soil Friction	=	0.400
Soil height to ignore for passive pressure	=	12.00 in



Surcharge Loads

Surcharge Over Heel	=	0.0 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
Used for Sliding & Overturning		

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
The above lateral load has been increased by a factor of		1.00
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Stem Weight Seismic Load

F_p / W_p Weight Multiplier = 0.384 g

Added seismic base force 61.5 lbs

Design Summary

Wall Stability Ratios

Overturning	=	2.40 OK
Sliding	=	1.56 OK
Total Bearing Load	=	708 lbs
...resultant ecc.	=	4.31 in
Soil Pressure @ Toe	=	736 psf OK
Soil Pressure @ Heel	=	0 psf OK
Allowable	=	1,000 psf
Soil Pressure Less Than Allowable		
ACI Factored @ Toe	=	883 psf
ACI Factored @ Heel	=	0 psf
Footing Shear @ Toe	=	2.5 psi OK
Footing Shear @ Heel	=	2.1 psi OK
Allowable	=	75.0 psi

Sliding Calcs (Vertical Component NOT Used)

Lateral Sliding Force	=	241.5 lbs
less 100% Passive Force	= -	93.8 lbs
less 100% Friction Force	= -	283.0 lbs
Added Force Req'd	=	0.0 lbs OK
....for 1.5 : 1 Stability	=	0.0 lbs OK

Load Factors

Building Code	CBC 2010,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

		Stem OK
Design Height Above Ftg	ft =	0.00
Wall Material Above "Ht"	=	Masonry
Thickness	=	8.00
Rebar Size	=	# 4
Rebar Spacing	=	24.00
Rebar Placed at	=	Edge
Design Data		
fb/FB + fa/Fa	=	**0.168**
Total Force @ Section	lbs =	141.5
Moment....Actual	ft-# =	135.5
Moment.....Allowable	=	808.1
Shear.....Actual	psi =	2.2
Shear.....Allowable	psi =	38.7
Wall Weight	=	84.0
Rebar Depth 'd'	in =	5.25
LAP SPLICE IF ABOVE	in =	24.00
LAP SPLICE IF BELOW	in =	
HOOK EMBED INTO FTG	in =	6.00

Masonry Data

f'm	psi =	1,500
Fs	psi =	20,000
Solid Grouting	=	Yes
Use Half Stresses	=	n/a
Modular Ratio 'n'	=	21.48
Short Term Factor	=	1.000
Equiv. Solid Thick.	in =	7.60
Masonry Block Type	=	Normal Weight
Masonry Design Method	=	ASD

Concrete Data

f'c	psi =
Fy	psi =

ESI/FME, INC.
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Title : **PUEBLO PARK @ 2252 Del Amo Blvd.** Page: _____
Job # : **1013-D070** Dsgnr: **RRW** Date: 8 OCT 2013
Description....
RETAINING WALL

This Wall in File: e:\files\d070\freestandingcmu.rp5

Cantilevered Retaining Wall Design

Code: CBC 2010,ACI 318-08,ACI 530-08

Footing Dimensions & Strengths

Toe Width	=	0.50 ft
Heel Width	=	1.50
Total Footing Width	=	2.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 2,500 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel
Factored Pressure	=	883	0 psf
Mu' : Upward	=	174	60 ft-#
Mu' : Downward	=	55	0 ft-#
Mu: Design	=	119	-60 ft-#
Actual 1-Way Shear	=	2.45	2.09 psi
Allow 1-Way Shear	=	75.00	75.00 psi
Toe Reinforcing	=	None Spec'd	
Heel Reinforcing	=	None Spec'd	
Key Reinforcing	=	None Spec'd	

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: Not Req'd = Mu<S*Fr

Summary of Overturning & Resisting Forces & Moments

		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-#		.....RESISTING..... Force lbs	Distance ft	Moment ft-#
Heel Active Pressure	=	180.0	1.00	180.0	Soil Over Heel	= 183.3	1.58	290.3
Surcharge over Heel	=				Sloped Soil Over Heel	=		
Surcharge Over Toe	=				Surcharge Over Heel	=		
Adjacent Footing Load	=				Adjacent Footing Load	=		
Added Lateral Load	=				Axial Dead Load on Stem	=		
Load @ Stem Above Soil	=				* Axial Live Load on Stem	=		
	=				Soil Over Toe	= 183.3	0.25	
Seismic Stem Self Wt		61.5	2.34	143.6	Surcharge Over Toe	=		
Total		241.5	**O.T.M.**	323.6	Stem Weight(s)	= 224.3	0.83	186.9
	=		=		Earth @ Stem Transitions	=		
Resisting/Overturning Ratio		= **2.40**			Footing Weight	= 300.0	1.00	300.0
Vertical Loads used for Soil Pressure =		707.6 lbs			Key Weight	=	2.50	
					Vert. Component	=		
					Total =	707.6 lbs	**R.M.**=	777.2

If seismic included the min. OTM and sliding ratios may be 1.1 per IBC '09, 1807.2.3.

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

DESIGNER NOTES: